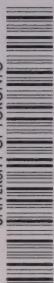


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Vol. 47 No. 1

Canadian
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January
1981

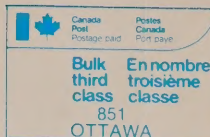
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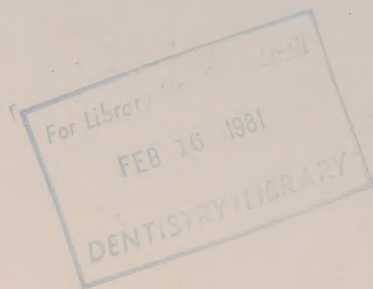
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- *Commons' Committee on Disabled and Handicapped Negotiations
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Dental Therapists
Federal Trade Commission
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CANADIAN DENTISTS' INSURANCE PROGRAM

Life
Long Term Disability
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American Dental Association

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L'ADC est votre Porte-Parole national

1979-1980, une période de réalisations

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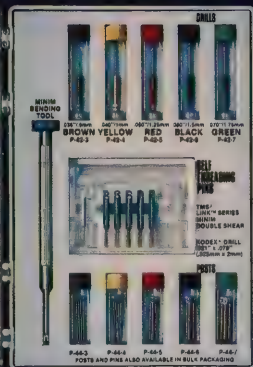
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- 9 **Dental manpower — the challenge of the 80's**
In Canada, the dramatic reversal of the dentist: patient ratio has led to shortened work weeks, bankruptcy and the opening of fewer solo practices. Dr. Gil Utas, CDA president, comments on the role of the National Association in the coming year.

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14 **Travel plan is good idea**
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17 **Notice**
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- 18 **CDA looks to 1981**
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- 18 **Photographer**
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- 18 **Dental crest**
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- 20 **Pilot study on mercury pollution**
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- 22 **CDA urges Federal Government to lift tariff on certain dental materials**
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- 26 **Introduction to CDA president-elect**
"Mine is a listening role" — Dr. Donald Williams

- 29 **Planning for retirement with an RRSP**
The third and final article on retirement financial planning.

- 30 **Dr. Ralph Barolet honored by U.S. students**
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- 24 **Diagnosis and Treatment of Periodontal Disease in General Practice**
"A good reference book for both general practitioners and specialists," says reviewer Dr. Gerald Pearson.

- 24 **Person Identification by Means of the Teeth**
"There are four color pages, an unexpected surprise for a book which costs only ten dollars." — Dr. Robert Dorion, Montreal, Quebec.

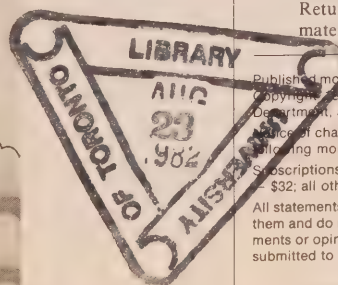
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Journal

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1981

Éditorial

10 La main-d'oeuvre dentaire — le défi des années '80

Au Canada, le nombre des patients par dentiste a diminué de façon dramatique. Certains dentistes ont dû abrégé leur semaine de travail tandis que d'autres ont fait faillite. Par ailleurs, il s'ouvre moins de pratiques privées. Le Dr Gil Utas, président de l'ADC, commente le rôle de l'Association pendant la prochaine année.

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39 L'ADC en 1981

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38 Écussons de l'ADC

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35 Étude-pilote sur la pollution par le mercure

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32 Nouvelles taxes d'importation

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36 Le président-élu de l'ADC

Le Dr Don Williams répond aux questions que lui pose le Journal.

38 Les R.E.E.R. lors de la retraite
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34 Honneur au Dr Ralph Barolet
L'Association des étudiants cliniques rend hommage au Dr Ralph Barolet pour ses réalisations en éducation dentaire.

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24 Diagnostic et traitement des maladies parodontaires en pratique générale
De l'avis du Dr Gerald Pearson, il s'agit d'un bon livre et pour le praticien général et pour le spécialiste.

24 Les dents comme moyen d'identification
"Il y a quatre pages en couleurs. C'est là une heureuse surprise pour un livre de dix dollars."
— Dr Robert Dorion, Montréal, Québec.

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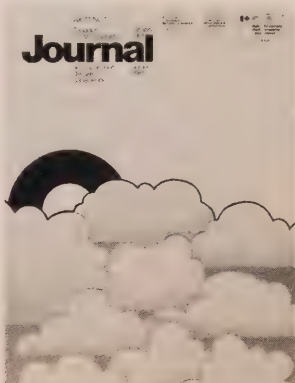
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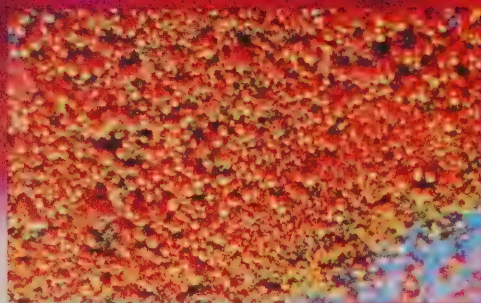
*Yankell, S.L., U Pa Sch Dent Med, Phila, Penn IADR Journal of Dental Research, Jan 79, Vol. 58, P. 239, Abstr 585
Nygaard-Østby, P., et al, Jordan as Oslo, Norway; U Pa Sch Dent Med, Phila, Penn
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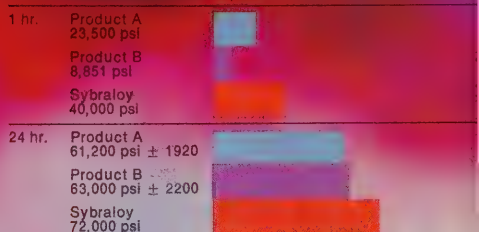
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These outstanding characteristics and physical properties of Sybraloy are documented in "Eight High-Copper Amalgam Alloys and Six Conventional Alloys Compared" — (Eames-MacNamara) — Operative Dentistry, Vol. 1, No. 3 (Summer).

Techniques and general superiority of spherical alloys are discussed in "Amalgam Filling Techniques—Some Recent Advances" (Baker) British Dental Journal, 1977, 142, 181.

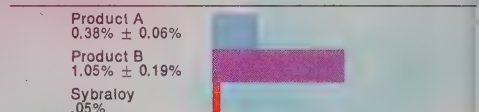
Compressive Strength 0, psi 30,000 psi 60,000 psi 90,000 psi



Tensile Strength 0, psi 333 psi 666 psi 999 psi



Static Creep 0, % 0.5 % 1.0 % 1.5 % 2.00 %



Corrosion Resistance

Corrosion resistance is good on all three products.

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DENTAL MANPOWER - THE CHALLENGE OF THE 80'S

J.C. D.A.
JAN. 1981

The challenges we face today may not be the greatest the profession has ever faced or ever will face, but in this changing world we are confronted with the rapidly changing demands of our profession.

The Canadian Dental Association may not be the all-seeing eye, but it is the one body that can gather and collate information, and make it available to all dentists in Canada. It is the one authority that can bring the many and varied regional interests of dentistry together with an eye to a stronger profession.

"Dental manpower" has become the password of the 80's. Compared with the early 60's, there are now close to 1,000 fewer potential patients per licensed Canadian dentist. This is not strictly a Canadian phenomenon. Sweden is feeling the changing tide and has moved to limit the number of undergraduate students. Norway has introduced a mandatory retirement age of 75 years. West Germany is experiencing an overabundance of dental practitioners and the United States is in a similar situation.

In Canada, this dramatic reversal of the dentist: patient ratio has led to shortened work weeks, bankruptcy, and the opening of fewer solo practices.

The fact is, however, if demand equalled need, the decreasing dental manpower requirement trend would be reversed. Approximately 50 per cent of the Canadian population does not seek dental treatment on a regular basis. How do we reach this group? How do we let them know dental care is essential for overall health?

One of the answers is "education" — education through every means at our disposal.

The Canadian Dental Association National Dental Health Month is a tremendous educational vehicle for the dental profession. The distribution of new and updated dental health pamphlets produced by CDA also assists in the education process. We must continue to promote fluoridation where feasible. We must reach the children through expanded oral health programs in schools. Third party dental pre-payment plans will be promoted as a way to relieve financial barriers to care.

"Solid and Set for the 80's" is the theme of the 1981 Membership Campaign of the Canadian Dental Association ... and CDA is solid and set. Last year was a building year. CDA worked on position papers on radiation protection, fluoridation, children's dental health plans and professional licensing and competition policy. CDA set standards and guidelines through Committees on Health Care, Dental Materials and Devices, Hospital Services, Ethics and Education. CDA carried its message to the Federal Government on taxes, the Health Services Review Commission, the Commons' Committee on the Disabled and Handicapped, Hepatitis B screening and additional research funds were attained.

The membership brochure inserted in the front of this Journal clearly spells out what we are doing and where we are going. Please take a minute to read it.

CDA is Solid and Set for the 80's ... I urge you to play an active role on the team.

Dr. Gil Utas,
President,
Canadian Dental Association.

LA MAIN-D'OEUVRE DENTAIRE - LE DÉFI DES ANNÉES '80

Les défis actuels ne sont sans doute pas les plus grands que la profession a *jamais* eus ou *aura* jamais à relever. Cependant, notre monde évolue rapidement et nous avons à nous occuper des besoins rapidement changeants de notre profession.

L'Association dentaire canadienne n'a sans doute pas un oeil qui voit tout, mais c'est un organisme qui peut recueillir et rassembler des renseignements pour les transmettre à tous les dentistes du Canada. C'est la seule autorité qui peut réunir les nombreux et divers intérêts régionaux du monde dentaire, tout en ayant pour objectif d'affermir la profession.

"La main-d'oeuvre dentaire," tel est le mot d'ordre de cette nouvelle décennie. Comparativement au début des années '60, il y a, au pays, près de 1,000 patients de moins par dentiste diplômé. Ce phénomène n'est pas particulier au Canada. En Suède, la marée change aussi et on a pris des mesures pour limiter le nombre des étudiants dentaires qui s'inscrivent au niveau universitaire. Quant à la Norvège, elle impose la retraite à l'âge de 75 ans. Dans la République Fédérale d'Allemagne, il y a trop de praticiens dentaires et il en est de même aux États-Unis.

Au Canada, le nombre de patients par dentiste a diminué de façon si dramatique que certains praticiens ont dû abrégé leur semaine de travail. D'autres ont fait faillite et c'est un fait qu'il s'ouvre moins de pratiques privées.

Il reste toutefois que, si la demande égalait les besoins, cette tendance déclinante serait renversée. En effet, environ 50 pour cent des Canadiens ne visitent pas le dentiste régulièrement. Il faut se demander ce qu'il faut faire pour les atteindre et comment on pourrait leur apprendre que les soins dentaires sont nécessaires au bien-être général.

L'une des réponses à ces questions est "l'éducation" — l'éducation par tous les moyens dont nous disposons.

Par exemple, le Mois national de la santé dentaire est

une campagne lancée chaque année par l'Association dentaire canadienne qui aide immensément à faire connaître la profession. De plus, l'ADC distribue constamment des brochures sur la santé dentaire, soit des nouvelles, soit des anciennes qu'elle revise pour les mettre à jour. Quant aux enfants, il faudrait développer davantage les programmes de santé buccale dans les écoles afin de les habituer à une bonne hygiène dentaire. Par ailleurs, il convient de promouvoir la fluoruration partout où c'est possible. Enfin, on favorise la création de régimes d'assurance dentaire afin d'alléger le fardeau des dépenses pour les particuliers.

"Fin prêt pour la nouvelle décennie," tel est pour 1981 le thème de la campagne de recrutement de l'Association dentaire canadienne ... et l'ADC est fin prête. 1980 a été une année de réalisations. L'ADC a pris position sur la façon de se protéger des radiations, sur la fluoruration, sur les régimes d'assurance dentaire pour enfants, sur l'octroi des permis professionnels et sur les politiques de concurrence. L'ADC a demandé aux Conseils des Soins de santé, des Matériaux et dispositifs dentaires, des Services hospitaliers, d'Éthique et d'Éducation d'établir des normes et des lignes de conduite touchant leurs domaines respectifs. L'ADC s'est faite entendre auprès de Revenu Canada, de la Commission d'enquête sur les services de santé et du Comité des Communes qui s'occupe des invalides et des handicapés. Elle a obtenu du gouvernement fédéral des fonds supplémentaires pour la recherche ainsi qu'un filtrage des réfugiés indochinois pour détecter les cas d'hépatite.

La brochure insérée au début du Journal décrit clairement nos activités et nos projets. Veuillez prendre un moment pour la lire.

L'ADC est fin prête pour la nouvelle décennie ... Je vous exhorte à joindre l'équipe et à jouer un rôle actif.

Dr Gil Utas,
président,
l'Association dentaire canadienne.

**At last there's
a mint that
satisfies their
sweet tooth...
and your
tough
standards!**

Introducing New Trident Mints

Now there's a mint you can safely recommend to people who want to satisfy that sweet urge, but who care about good dental health. New Trident Mints are sweetened without sugar, so your patients can enjoy that deliciously cool, minty taste again and again, with no worry of sugar damage to their teeth.

New Trident Mints...cool refreshment, without sugar.

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Please send me the Trident Professional Plan I have checked below:

- ☐ NEW Trident Sugarless Mints: three boxes each of Peppermint and Spearmint, and four boxes of Wintergreen, for \$13.50 (120 packages, regular value \$36.00).
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Ontario Dentists please include 7% Provincial Sales Tax (95¢ or \$1.79).

Enclosed please find my cheque/money order (payable to Trident Professional Plan) in the amount of \$ _____.

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Toronto, Ontario, M5W 1H1.



Letters

Supports exchange...

I have just read Dr. Kevin L. Roach's letter to the Editor of the C.D.A. Journal and find his idea for a vacation exchange very interesting.

Dr. John F. Miner,
Ottawa, Ontario

"You're the Canadian dentist!"

The October, 1980 issue of the Journal contained a pleasant surprise; the article on the Montserrat dental service of Murray Diner and Vic Legault of Montreal. Except for a mention in the 1976 transactions, the CDA, to my knowledge, has not even

In case such information would be of interest to your readers, the following table reveals the record of services provided by our excellent representatives of Canada and Canadian dentistry between January, 1971 and August 1976.

Number of Volunteers	Months	Patients	Restorations	Extractions
St. Lucia 39	42	10,365	1,855	11,384
Montserrat 39	44	7,371	4,698	5,324
Dominica 14	15	7,344	61	8,784
TOTAL 92	101	25,080	6,614	25,492

alluded to this very important and useful Caribbean Dental Program.

The citizens of St. Lucia, Montserrat and Dominica originated, I believe, the commonplace phrase, "you are the Canadian Dentist!" There likely has not been any single program that has done more for the image of Canadian dentistry and the Canadian Dental Association outside Canada. The name of the CDA became commonplace at the Health Minister's Conferences because of the program. Many of the interesting facets of the CDA Caribbean Dental Program, including the name of a staunch supporter and adviser such as Dr. Bill McIntosh and others, have never been reported.

The history of the formation, aims and objectives were described in the April, 1970 and March, 1973 issues of the Journal but after the cessation of the formal program, the final figures for the participation and achievements were never put into print.

There were "other" services not included above. The lower restorations compared with extractions figures reflect the lack of equipment, supplies, facilities and time. Montserrat was beginning to show appreciable increases due to the preventive program organized by Dr. Vernon Buffong, Senior Dental Officer.

Due to the interest aroused by the program there are still inquiries and Canadian dentists are still giving their time and talents to provide dental treatment to the needy. I am proud to have been committee chairman of this program from its inception in 1970 under CESO (Canadian Executive Service Overseas) and then as the CDA Caribbean Dental Program sponsored by the Non-governmental Organization Division of CIDA (Canadian International Development Agency) until it was terminated in August, 1976.

G.E. Burgman, D.D.S.,
Niagara Falls, Ontario.

FLUORINSE*

Sodium fluoride rinse

Composition: Contains sodium fluoride in a pleasantly flavoured neutral pH liquid. Contains alcohol (3% by volume).

Indications: Dental caries prophylactic.

Precautions: Limited to topical use in the mouth only. DO NOT SWALLOW. Excessive ingestion may cause nausea and excessive use may cause dental fluorosis.

Contraindications: Sodium-free diets.

Dosage and Administration: 1 to 2 teaspoons (5 to 10 ml) of Fluorinse is swished around vigorously in the mouth for approximately 1 minute and then expectorated. Recommended at bedtime, after brushing and flossing teeth thoroughly. For maximum benefit, patient should not eat or drink for a period of 30 minutes after rinsing.

How supplied: Fluorinse is available in 455 ml plastic bottles with child-resistant caps.

Weekly Rinse	Daily Rinse	Weekly Rinse
Cinnamon (red) 0.2%	Ice Mint (blue) 0.05%	Mint (green) 0.2%
sodium fluoride	sodium fluoride	sodium fluoride

Caution: Keep out of reach of children.

FLOZENGES*

Sodium fluoride lozenges

Composition: Contains sodium fluoride in lozenge form. Contains no sugar, saccharin or cyclamate.

Indications: To help protect against dental caries, particularly for children through age 14.

Precautions: If this product is used in an area where the drinking water has a natural fluoride content in excess of 0.7 parts of fluoride ion per million parts of water, or is artificially fluoridated, fluorosis of the tooth enamel may result.

Contraindications: Sodium-free diets.

Dosage and Administration: FOR CHILDREN OVER 3 YEARS OF AGE: 1 lozenge daily, preferably at bedtime after brushing and flossing teeth thoroughly. Flozenge is slowly sucked and dissolved in the mouth. FOR CHILDREN 2 TO 3 YEARS OF AGE: 1 lozenge every other day, as above.

Fluoride in drinking water	Recommended supplement	
	Children 2-3	Children 3 & over
0-0.3 ppm	0.5 mg	1.0 mg
0.3-0.7 ppm	0.25 mg	0.5 mg

How supplied: Flozenges are available in plastic, child-resistant containers of 120 lozenges.

Two flavours: Orange 0.5 mg of fluoride ion Strawberry 1.0 mg of fluoride ion

Caution: Keep out of reach of children. Exceeding recommended dosage over a prolonged period of time may be harmful.

References

- According to the International Workshop on Fluorides and Dental Caries Reductions. School of Dentistry, University of Maryland, 1974: "...concentration of recommendable rinsing solutions ranges from 0.025% to 0.2%." (Page 140). Many available rinses do not meet this standard.
- Confirmed by world-wide dental authorities (International Workshop, Maryland, 1974).
- Stephen KW. Campbell D: Caries reduction and cost benefit after 3 years of sucking fluoride tablets daily at school. *Brit. dent. J.* April 1978, 144-202.

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Cooper Laboratories Limited,
Boisbriand, Que.
Richmond, B.C.
*TM

Only in drugstores. Full information on request.



Now you can bring fluoride therapy home to your patients.

New Fluorinse – therapeutically effective fluoride treatment for home use.†

From now on, your patients can continue an effective caries prevention program between appointments.¹ Fluorinse is especially valuable for:

- Children who are decay prone or who have insufficient fluoride intake.
- Caries rampant adults.
- Adults or children with poor dental hygiene habits or without access to regular dental care.
- Orthodontic and periodontic patients.

A choice of flavours and strengths.

Fluorinse is available in 0.2% Cinnamon (red) for weekly use; 0.05% Ice Mint (blue) for daily use; and 0.2% Mint (green) for weekly use.

For children who do not like to rinse, Flozenges are a good alternative.

Flozenges are pleasant to take, and effectively reduce the incidence of caries.² They are available in two flavours: Orange (0.5 mg. of fluoride ion) and Strawberry (1 mg of fluoride ion).

There are 32 good reasons for recommending

FLUORINSE* and FLOZENGES*



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Boisbriand, Que.
Richmond, B.C.

*TM
Only in drugstores. Full information on request.

PAAB
CCPP

Letters

Executive

Ontario Society of Endodontists ... elected officers for 1981-82: Dr. Barry H. Korzen, immediate past-president; Dr. Jerry S. Smith, president; Dr. Arthur A. Arshawsky, president-elect; Dr. Michael Sherman, treasurer; Dr. John Phillips, secretary.

Travel plan is good idea

Re: Dr. Kevin L. Roach Letter
CDA Journal page 610, 1980.

The program of travel and house exchange between dentists, internationally, is a very practical and desirable plan.

This arrangement has been in use in Rotary Service Clubs for many years. I am interested in such a plan for the future and feel I have a great deal to offer a foreign dental visitor in an exchange.

Please implement the "Travel Trade Program".

Dr. M.M. Scherzer, DDS, MS
Victoria
British Columbia

Le Journal de l'Association Dentaire Canadienne est heureux d'offrir cet espace aux lecteurs désireux d'envoyer des "Lettres à la rédaction". Toutes les lettres doivent être signées et la rédactrice en chef se réserve le droit de les raccourcir si le manque d'espace l'impose.

The Journal of the Canadian Dental Association is pleased to make this space available for "Letters to the Editor". All letters must be signed and the editor reserves the right to edit communications according to space requirements.



Dr. Barry H. Korzen, president of the Ontario Society of Endodontists, left, presents Dr. Seymour Oliet of Philadelphia with a cheque for \$1,000 for the Louis Grossman Endowment Chair in Endodontics at the University of Pennsylvania. Dr. Oliet was guest speaker at the O.S.E.'s annual scientific meeting.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 30 novembre 1980:	
<i>Fonds d'actions ordinaires</i>	\$54.587
<i>Fonds à revenu fixe</i>	\$23.741
<i>Fonds garanti</i>	\$18.765
<i>Fonds de placement équilibré</i>	\$12.489
L'avoir total (valeur marchande) du régime s'élevait à \$33,939,324.	
Au 31 octobre 1980, les chiffres du mois précédent étaient les suivants:	
<i>Fonds d'actions ordinaires</i>	\$52.641
<i>Fonds à revenu fixe</i>	\$23.406
<i>Fonds garanti</i>	\$18.596
<i>Fonds de placement équilibré</i>	\$12.188
L'avoir total (valeur marchande) du régime s'élevait à \$33,261,761.	
Pour obtenir tout renseignement supplémentaire, prière de s'adresser aux: Régimes des rentes et d'assurances subventionnés par l'ADC, P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.	

CDA Retirement Savings Plan

Unit values of the Canadian lows:

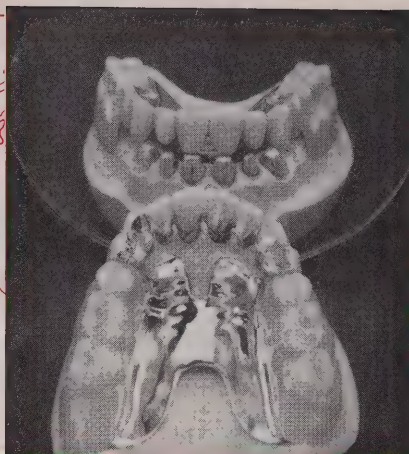
Dental Association's Retirement Savings Plan stood as follows on November 30, 1980:	
<i>Common Stock Fund</i>	\$54.587
<i>Fixed Income Fund</i>	\$23.741
<i>Guaranteed Fund</i>	\$18.765
<i>Balanced Fund</i>	\$12.489
Total assets (market value) of the plan were \$33,939,324.	
<i>Common Stock Fund</i>	\$52.641
<i>Fixed Income Fund</i>	\$23.406
<i>Guaranteed Fund</i>	\$18.596
<i>Balanced Fund</i>	\$12.188
Total assets (market value) of the plan were \$33,261,761.	

Total assets (market value) of the plan were \$33,939,324.

The previous month's figures, as of October 31, 1980, stood as fol-

For further information write to: Canadian Dental Service Plans Inc., P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

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Wherever you practice there is a Nobilium laboratory nearby . . . ready to process your partials with the "aristocrat of chromium alloys" . . . partials that satisfy every patient desire for dependable fit, functional service, oral comfort and lifelike aesthetics. Here is the list of skilled laboratories from British Columbia to Nova Scotia equipped with the latest Nobilium equipment and materials and dedicated to serve your every requirement. Entrust your prescriptions to them with confidence.

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Aurum Crest Dental Laboratories Ltd.
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Motrin 400mg Tablets

when used as a non-steroidal, analgesic anti-inflammatory for postsurgical dental pain, Motrin 400 mg offers...

anti-prostaglandin activity – to inhibit elevated prostaglandin levels; quell inflammation and pain, and substantially increase patient comfort

fast-acting relief – many patients notice significant pain relief within one hour

effective...yet non-narcotic, non-addictive – clinical studies have demonstrated the safety and efficacy of Motrin 400 mg tablets¹

well-tolerated – documented tolerance exceeds that of even the most common household pain reliever (in Motrin's vast clinical experience – used by more than 6,000,000 patients since its 1973 intro-

duction – the most common side effect is mild gastrointestinal disturbance)

**write your next prn pain prescription
Motrin 400mg**

☐ non-narcotic ☐ non-habituating
☐ anti-prostaglandin



Upjohn

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Prescribing information on next page

1. Data on file, The Upjohn Company

803 REGISTERED TRADEMARK MOTRIN CE 1847 1B



Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastrointestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3.5 grams of acetylsalicylic acid daily.

Indications and Clinical Use: Motrin (ibuprofen) is indicated for the treatment of rheumatoid and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain, accompanied by inflammation, in conditions such as musculo-skeletal trauma and post-dental extraction. It is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Ibuprofen should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS).

Ibuprofen should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving ibuprofen. Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with ibuprofen, a cause and effect relationship has not been established. Ibuprofen should be given under close supervision to patients with a history of upper gastrointestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such symptoms while receiving ibuprofen, the drug should be discontinued and the patient should have an ophthalmologic examination.

Fluid retention and edema have been reported in association with ibuprofen; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Ibuprofen, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Ibuprofen has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, ibuprofen should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on ibuprofen should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When ibuprofen is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aspirin meningitis has been reported in connection with ibuprofen therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to ibuprofen such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering ibuprofen therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants—Several short-term controlled studies failed to show that ibuprofen significantly affected prothrombin time or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when ibuprofen and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering ibuprofen to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with non-steroidal anti-inflammatory agents including ibuprofen yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on ibuprofen blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with ibuprofen:

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to ibuprofen cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with ibuprofen therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn
Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System

Incidence 3 to 9%: dizziness

Incidence 1 to 3%: headache, nervousness

Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities.

Dermatology

Incidence 3 to 9%: rash (including maculopapular type)

Incidence 1 to 3%: pruritis

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses

Incidence 1 to 3%: tinnitus

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during ibuprofen therapy should have an ophthalmological examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia).

Cardiovascular

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of ibuprofen each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of ibuprofen reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis: The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy: once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain associated with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

Product monograph available on request.

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Hepatitis B

The results of a screening program of Indo-Chinese refugees confirm the known Hepatitis B carrier rate of 13 per cent, said J.L. Fry, deputy minister, National Health and Welfare in a communiqué released November 20, 1980.

The full-scale screening program ended November 30, 1980 but dentists may have their Indo-Chinese refugee patients tested for the Hepatitis B antigen at the expense of National Health and Welfare, Mr. Fry said.

Dentists are instructed to forward accounts through the Medical Services Branch Regional Headquarters in their province or territory.

Notice

The Interim Board of Governors meeting of the Canadian Dental Association will take place March 6 and 7, 1981 at the Four Seasons Hotel, Ottawa, Ontario.

Obituaries

ROTMAN, A.A., practised in Toronto, Ontario. Died October 15, 1980.

HASKEY, P.G. of Weston, Ontario. Died October 14, 1980.

REID, Harvey, graduated Royal College of Dental Surgeons, 1917. Dr. Reid was president of the Canadian Dental Association in 1945. President of the Toronto Academy of Dentistry in 1936-37, Dr. Reid served on the Board of Directors of the RCDS from 1939 to 1947 when he took over as president of the College until 1949. He practised in Toronto from 1920 when he returned from overseas service in World War I as a captain in the Canadian Dental Corps.

CDA looks to 1981

Three main issues will confront dentists in 1981 — taxation, manpower and alternate delivery systems — and there are plans to deal with each of them in the coming months, said Dr. Clyde Covit, CDA membership chairman.

CDA has already begun to lobby the Federal Government to reverse its budget decision to impose an overall increase of approximately 27 per cent on certain dental materials imported into Canada.

CDA will monitor alternate delivery systems and keep the membership informed as developments break.

CDA will study dental manpower needs to assure a continuous upgrading of the standard of care for all Canadians.

Dr. Covit also pointed out that CDA will be launching a major fluoridation campaign early this year. He noted the success of the Canadian Dentists' Insurance Program where it has been established that premiums will remain the same for three years. "We're also taking an in-depth look at RRSP's," he said.

The Canadian Dental Association has a definite and positive role to play in influencing legislation and

other changes that will affect the profession of dentistry in Canada during this coming year, Dr. Covit said.

As past president of the Association, Dr. Covit has worked within the Association and has seen it develop into a significant negotiating voice in discussions with the Federal Government. CDA's Taxation Committee, for example, successfully negotiated a reduction in the professional management corporation tax rate to 33 1/3 per cent from 50 per cent. The

same group lobbied for, and won, tax deductions on continuing education expenses.

CDA demonstrated to government bodies the pressing need for additional dental research funds.

It was the direct result of CDA initiative that the Federal Government undertook a nation-wide hepatitis B screening program of Southeast Asian refugees.

In commenting on what's ahead for the Association, Dr. Covit said, "We've been successful in the past and we will continue to work on behalf of the dentists of Canada for the long-term benefit of both the profession and the public."

Abstracts

Following estimates that five per cent of the U.S. population exhibits significant fear of dental treatment, it was concluded in this study that two procedures are helpful.

Self-control desensitization, education and discussion groups improved behavior in subjects who were extremely anxious about dental treatment.

With basic training, these proce-

dures can be effectively implemented by the dentist on a community basis.

Dental anxiety was determined to be a result of three factors — lack of sufficient communication between dentist and patient; perceived lack of control and inadequate knowledge of basic dental procedures.

Robert J. Gatchel, PhD., Effectiveness of two procedures for reducing dental fear: group-administered desensitization and group education and discussion, JADA, Vol. 101, October 1980:634.

Biofeedback

Densensitization, biofeedback and control by patients were examined in a group of 10 patients experiencing severe dental fear.

Psychotherapeutic intervention was perceived to be advantageous in changing the patient's ability to deal with dental phobia.

All patients learned to relax and only minor difficulties were experienced with dental treatment after therapy.

Sven G. Carlsson, Anders Linde, Alf Ohman, Reduction of tension in fearful dental patients, JADA, Vol. 101, October 1980:638.

Dental crest

The Canadian Dental Association has purchased a limited supply of CDA crests which are now available to CDA members on a first come, first served basis.

The crest is pocket-sized appropriate for a blazer, made of black material with 'gold' thread trim and featuring the crest of dentistry in Canada. The crests cost \$12. Order yours from Kathy Mactaggart, Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6. Prepayment (cheque or money order) please.

Photographer

Dr. Aubrey Crich, an oral surgeon in Grimsby, Ont. was the subject of a feature article in the December issue of Reader's Digest.

The article, "The Miniature World of Aubrey Crich," concerned Dr. Crich's hobby — nature photography and nine of his photographs were featured.

Dr. Crich took up his hobby in 1952 and has since had exhibits internationally. He was made a Fellow of the Photographic Society of America in 1976.

You believe in fluoride. You can believe in Listermint with fluoride.

The efficacy of fluoride in caries reduction is universally accepted, but some people believe that there is already enough fluoride in dentifrices and water supplies, and that adding more fluoride to the dental hygiene regimen would be superfluous.

However, after reviewing more than twenty independent studies, the International Workshop of Fluorides and Dental Caries Reduction* concluded that a mouthwash containing fluoride would have a significant effect on caries reduction even in fluoridated water areas.

And what about brushing with dentifrices alone? You know from your own experience that caries occur most often in places which get the least attention in brushing – the posterior and interproximal areas. Because mouthwash is a liquid, it can provide an extra measure of fluoride protection where brushing technique is less than perfect.

Listermint with fluoride is formulated to provide this extra protection. It is a good-tasting neutral pH mouthwash containing 0.22 mg/ml of sodium fluoride (100 ppm fluoride ion), a concentration which is both safe and effective.

Patients who are susceptible to caries may find Listermint with fluoride to be an important new weapon in caries reduction. And among your many patients who already use a mouthwash, your recommendation to choose Listermint with fluoride would augment their fluoride protection without adding another step to their daily oral health programme.

We hope you will take the opportunity to confirm the conclusions of the International Workshop by recommending Listermint with fluoride whenever you believe that additional fluoride protection may be helpful.



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Box No. 8163, Toronto, Ontario M5W 9Z9.

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Province _____ Postal Code _____



Pilot study on mercury pollution

The Canadian Dental Association Council on Dental Materials and Devices will conduct a pilot study in the Maritime provinces as the first leg in a cross-Canada survey of dental office mercury pollution.

Using a Bacharach Mercury Sniffer, ten in-office locations will be tested including the mercury alloy capsule storage area; the vicinity of the amalgamator after the machine has run for three minutes; the general area around the trituration of amalgam; corners between floor and units, cracks between surfaces, etc.; curtains; amalgam scrap waste container, tested open and closed; location of used capsules; room heaters or humidity control units; vacuum cleaners; and sinks, traps where mercury or amalgam may have been placed.

In the sampling procedure, consideration will be given to the time of day, number of amalgam restorations performed during the preceding 36 hours and room temperature. A small number of "typical" offices will be evaluated to produce a time-weighted average, eight-hour day value. This will involve eight one-hourly measurements in a single day in the same office location.

The \$3,000 mercury measuring device has been purchased by Dalhousie University Faculty of Dentistry. Travel, supply, subsistence and miscellaneous expenses will be underwritten by the Canadian Dental Association and offices surveyed will pay a small fee.

The survey target is 50 per cent of offices. A second laboratory study would evaluate mercury levels in randomly selected dentists, assistants and hygienists working in offices with high mercury levels. These evaluations would include analysis of hair and nails and perhaps blood.

A further aspect of the laboratory study would include the evaluation of amalgamators, capsules or dispensers as well as hand and mechanical condensing procedures to determine the mercury vapour produced.

In a letter to the Canadian Dental Association, Dr. Derek Jones of Dalhousie University and a member of the CDA Council on Dental Materials and Devices, noted that if proper work procedures are followed mercury should not be a health hazard. Mercury is toxic in all its forms, particularly as an organic compound and can enter the body by inhalation, ingestion and skin contact. Mercury will pass through unbroken skin, but most toxicity problems occur as a result of the inhalation of dust or mercury vapour. Once in the body, mercury is deposited in the tissues. It remains circulating in the blood for only a short time, one reason why blood mercury levels are not of great value in the detection of mercury poisoning. Kidney tissues will have the highest concentration of mercury, followed by the liver, spleen and brain. Inorganic forms of mercury are less well bound and will clear from the system rapidly, resulting in a high urinary mercury level.

In recent years there has been increasing concern over potential toxic effects of mercury in dentistry. Most dentists spend about half their time on amalgam related procedures, either placing, removing or polishing amalgam restorations, underscoring the importance of good mercury hygiene.

There is no ideal biological indicator for evaluating low level, long term mercury intoxication through inhalation of mercury vapour. Urine and blood mercury tests are not satisfactory since there is no evidence to show that concentrations of mercury

in blood or urine during or following exposure will reflect concentrations found in critical organs such as the brain or central nervous system.

Studies have shown the average leakage from reusable capsules during trituration is twice as high as leakage from disposable capsules. The major hazard in the average dental office is spillage of mercury.

It is important to note that a measure of the amount of mercury in office air is not a measure of how much has been ingested or inhaled and retained in the body tissue of dental personnel. The survey proposed by the CDA Council on Dental Materials and Devices will highlight offices with elevated levels and instruct personnel on improved mercury hygiene.

Abstract

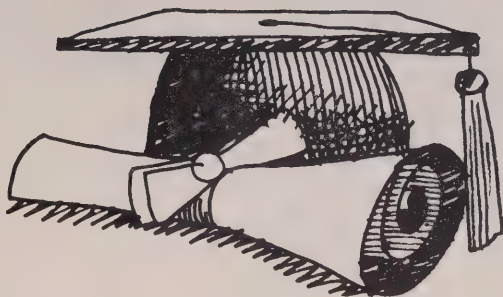
Why don't people go to the dentist? This question has traditionally been answered on a demographic/socio-economic basis.

This Academy of General Dentistry study is a definitive market research project which approached the problem from another perspective. The study sought to discover what people feel about dentistry that induced them to or inhibited them from seeking dental treatment.

The existing literature was examined, along with motivational beliefs, their strength, and differences in beliefs among users and non-users.

Leslie Joan Millenson, Increasing demand for dental care: motivating new behavior, General Dentistry, Vol. 28, No. 5: 20, 1980.

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CDA urges Federal Government to lift tariff

The Canadian Dental Association has launched a campaign urging the Federal Government to return imported dental materials to their duty free status.

A motion presented in the House of Commons will mean an approximate 16 per cent tariff and a nine per cent sales tax added to both the base volume of materials and the tariff, for an overall increase of about 27 per cent on an estimated \$20 million of dental materials imported into Canada.

Dentists are encouraged to support the Association's stand by writing to their Members of Parliament.

CDA's concerns were expressed in a letter to the Honorable Allan MacEachen, minister, Department of Finance from CDA president, Dr. Gil Utas. The letter follows:

The Canadian Dental Association has very recently become aware of

changes made to customs tariff items 47810-1 and 47900-1 which removes most of the dental materials utilized in Canadian dental practices from a duty free entry status.

Our Association is strongly opposed to these tariff item changes since the effect of such changes will certainly increase the costs of providing dental treatment to the people of Canada. The dentists of Canada are aware, by the messages of their Federal Minister of Health, that escalating costs of health care is one of the Nation's most severe financial concerns. This action of imposing duties ranging from 10 to 17.5 per cent on dental materials does not appear to be compatible with serious concern to contain health care costs.

It is the sincere request of the Canadian Dental Association that reconsideration be given to this issue so that duty free status on dental materials can be retained.

In support of our reasoning why the duty free status on dental materials should be reinstated, we offer the following points of view for your consideration:

1. Changes to the duty free status of tariff items 47810-1 and 47900-1 will increase the cost of dental services to the Canadian dental patient.

a) many middle and low income families in Canada do not have access to government or private insurance dental plans which provide financial support for dental treatment. Removal of the duty free status for the most commonly and extensively used dental materials will create an additional financial burden in the efforts of these families to obtain dental treatment.

b) both Federal and Provincial Governments within Canada provide access for many people to dental treatment through health and welfare programs. Dental fee schedules negotiated annually with these Governments reflect the costs of providing dental treatment. The increase to dental material costs created by these tariff item changes will be included in 1981 dental fee schedules utilized by government and fee guides utilized by private insurance dental plans and thereby increase the costs of the taxation-supported government dental plans and the private industry-supported employee benefit dental plans.

2. It is the understanding of the CDA that removal of duty free status on dental materials was requested by Johnson & Johnson Ltd. — a multinational, United States based corporation which provides many dental materials to Canadian dentists. Johnson & Johnson Ltd. manufactures only one item — a special type of amalgam

FDI discussions



CDA Management Committee met with FDI executive director, Dr. Jan Erik Ahlberg, November 14, 1980 in Ottawa. From left to right, Dr. Clyde Covit, past president; Hubert Drouin, executive director; Dr. Gil Utas, president; Dr. Ahlberg; and Dr. Don Williams, president-elect. Following the resolution of some inequities, Executive Council will recommend to the March Board of Governors that the Canadian Dental Association's notification of withdrawal from membership in FDI be retracted and that individual membership be encouraged in 1981 at \$35 per member. At present, CDA continues to be a member of FDI until the Congress in Rio de Janeiro, Brazil, September 5 to 9, 1981.

filling material — in Canada. By patent rights, they are the sole manufacturer of this popular product in the United States.

Placing a duty on dental materials entering Canada will eliminate any competitive amalgam product being available from the United States — in effect, a very favoured position for this one product manufactured in Canada by this sole manufacturer at the expense of increased costs to all other dental materials.

3. Removal of duty free status of tariff items 47810-I and 47900-I was also requested by the Canadian Dental Laboratories Conference in their efforts to gain tariff protection against dental prosthetic appliances manufactured in the United States for Canadian dentists. Unfortunately, in an effort to answer this well deserved protection, changes to these tariff items included changes to the status of dental materials due to the all encompassing wording in the tariff items.

The Canadian Dental Association strongly supports the Canadian Dental Laboratory Industry in Canada. Without the support of these highly skilled individuals the dental profession could not provide on a large scale the high quality of dental services now being provided to the people of Canada. Our Association fully supports their request placing "finished dental surgical prostheses" subject to duty within tariff items. However, in an effort to implement the request of the Canadian Dental Laboratory Conference general damage is being done to the costs of dental materials.

In summary, it is with regret that the Canadian Dental Association was not consulted nor made aware

of these changes to tariff items 47810-I and 47900-I prior to their presentation via a ways and means motion in the House of Commons. Our regret is based on the fact that these changes will affect a large number of Canadian dental patients and, therefore, it was assumed and hoped that the Canadian Dental Association would have been contacted prior to a presentation in the House.

However, since such consultation did not take place, the Canadian Dental Association now requests discussion opportunities with yourself and/or your appointed officials to explore avenues of mutual agreement. It is desired that dental materials return to their duty free status while dental surgical prosthetic appliances remain in present classification.

Journal scientific appointment

Dr. Pierre Desautels, professor, Faculty of Dentistry, University of Montreal, has been appointed scientific editor for French language papers submitted to the Journal of the Canadian Dental Association. Dr. Desautels, a graduate of the University of Montréal, also has a Masters degree in dental materials from the University of Indiana.

The Journal of the Canadian Dental Association has a strict review policy for all scientific articles and Dr. Desautels has agreed to undertake the task of establishing a network of consultant referees for French papers.

Because the Journal of the Canadian Dental Association assures French language authors world-wide readership in places as distant as Europe, East Asia, Africa and South America as well Canada and the United States, it is anticipated the French scientific content of the Journal will improve significantly over the coming 12 months.

Authors are urged to read and follow the Instructions for Contributors in this issue and to submit papers to the editor, Journal of the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

Dr. Utas meets ADA counterpart



Dr. Gil Utas, right, president of the Canadian Dental Association chats with Dr. Robert H. Griffiths of Illinois after his selection as president-elect of the American Dental Association.

J.F. Pritchard

Diagnosis and Treatment of Periodontal Disease in General Practice

W. B. Saunders Co., Canada, Ltd.
658 pages \$47.50

The "Diagnosis and Treatment of Periodontal Disease in General Dental Practice" by John F. Pritchard is one of the most up-to-date periodontal textbooks. This is a good reference book for both general practitioners and specialists.

The strength of this book lies in its thorough text. Documentation includes presurgical and post-operative radiographs and manual-like graphic instructions in procedural techniques. Topics vary from diagnosis, to prognosis, to treatment and include prosthetic recommendations and periodontal considerations in restorative dentistry. Both the classical techniques and those that have been more recently innovated are covered. Various authors provide not only expertise on given topics, but also a welcome change in the style

of writing without straying far from the uniformity of the text. The only problem with this is the overlap and repetition of certain ideas which, of course, is unavoidable when different authors contribute to the same book.

Dr. Pritchard sets the foundation philosophy in his opening chapter on Instruction and Orientation. The remainder of the book is devoted to dealing with the patient. The text includes a section on the "Art of Referral" and even deals with "Excessive Treatment" and "The Iatrogenic Disorders." All aspects of periodontal therapy including sanative and surgical techniques, the treatment of acute oral infections and the role of tooth movement in periodontal therapy and the relationship of restorative dentistry to periodontics are dealt with in depth. The literature quoted has its own bibliography for those who desire to further pursue the given topic.

The greatest problem with this book is its oversimplification of techniques. This may lead the general practitioner into a false sense of security about performing certain procedures. With easy comprehensible diagrammatic instructions, procedures often appear less difficult than in actuality. The vast amount of material presented in this book can sometimes be confusing. Perhaps a section on case presentations would have helped to solidify the ideas presented in the text. However, as a periodontal reference textbook, there are few which surpass this one.

"Diagnosis and Treatment of Periodontal Disease in General Practice" was reviewed by Dr. Gerald E. Pearson, Associate in Dentistry, Faculty of Dentistry, University of Toronto and Periodontal Consultant, York Central Hospital.

S. Keiser-Nielsen

Person Identification by Means of the Teeth

Wright Publishing, Bristol, England
114 pages \$10.00

This is a condensed, practical, technical manual for the dental practitioner who has had no exposure to the methods used in dental identification. The author does not attempt to discuss dental identification of live individuals (insanity, senility, fraud or confirmation of an identity). He sets out a suggested protocol for the dental identification of unknown, deceased individuals while pointing out some of its major pitfalls. The manual explains general principles of identification, oral autopsy procedures, collection and interpretation of post-mortem and ante-mortem data and finally the comparison of ante-mortem and post mortem findings. The reader is invited to solve four simulated cases.

There is a miniature vocabulary with translations in English, French, Spanish and German of

some of the more common terms which a dentist is apt to use when conferring with a foreign colleague.

The manual does, however have major shortcomings. The author remarks that "in forensic case work, dental experts will know all too well that edentulous cases are among the most difficult to solve." He suggests that preventative measures such as marking of dentures be adopted universally. Unfortunately, this does not solve the problem at hand. He offers neither a protocol nor technical advice for the deceased edentulous victim or for the appliances themselves. He states that if a marked denture "fits" the mouth in question, then it belongs to the victim. The author fails to explain the meaning of the word "fits." The same denture may "fit" many victims. He does not develop the area of rugoscopic analysis as a possible solution to the problem. Further identification procedures include cheiloscopy (quieloscopy), frontal and maxillary sinus comparison. The author does not develop protocol, methods of identifying, handling and retrieving markers in the natural dentition.

The reader should realize the author's use of the term "medical examiner / coroner" refers to two separate entities, the medical examiner or coroner systems. The systems are distinct entities depending on jurisdiction. One of the two systems exists in each province in Canada. One of the responsibilities of the medical examiner or the coroner is to identify unknown human remains. In Canada, the latter is not the responsibility of the police as it is in Denmark (the author's country).

Another important point is to be made about the author's use of the term "ante-mortem records." The term should be used only

when the post mortem identity has been confirmed. If there is only presumption of death the term should not apply. Under our current provincial laws, medical and dental records of a patient are the property of the doctor, hospital, or clinic concerned. Under most Canadian jurisdictions, the patient can obtain a copy of his file. If the patient is a minor, the parent or guardian can obtain a copy of the file. If the patient is a major, however, a third party cannot obtain a copy of the file without the patient's written consent. In general, this means that medical and dental records of missing adults cannot be obtained, stored and retrieved for possible future identification. This is also the case in the United States. The only known exception to this rule is a law in the State of California which deals specifically with this subject. If there is a fairly strong presumption of death, the medical examiner or coroner can subpoena medical and dental records of a specific person for comparison purposes in all jurisdictions.

The use of the term "non-dental description" should be understood as meaning the dental description by a person other than a dentist.

The author states "it should be remembered that, whenever restoration of an unfamiliar nature is found, it indicates that the person in question must have stayed at some earlier time within the area where such treatment is common, not necessarily that he himself originated from that area." The statement is misleading and incomplete. The presumption is that the patient did the travelling. In several cases this reviewer has been involved with, a foreign dentist has performed the dental work but was practising in Canada. The dental work, therefore, is a reflection of

the dentist's training and environment and does not necessarily indicate the victim's whereabouts or origins.

The author does not discuss different computer programs advocated as aids in the selection process of ante-mortem and post-mortem data.

There isn't a single reference to other books or articles on the subject of dental identification.

The author's use of symbols and/or abbreviations is cumbersome.

The reader will find an interesting and challenging formula for the mathematical assessment of the various factors which the author states can lead to a probable, very probable, or confirmed identity.

There are four color pages, an unexpected surprise for a book which costs only 10 dollars.

The reviewer finds that despite its shortcomings, this text is a reasonable attempt to explain the technical procedures of an oral autopsy, the gathering of ante and post mortem records and the pitfalls in the comparison of these records. The reviewer encourages readers to further their knowledge by reading books and articles on the same subject before proceeding to actual case material.

"Person Identification by Means of the Teeth" was reviewed by Dr. Robert B.J. Dorion, Montreal, Quebec.

Dr. Don Williams:

"Mine is a listening role" - president-elect

EDITOR: You're a Maritimer by birth, you studied at Dalhousie University Faculty of Dentistry and you practise in New Brunswick. What is your view of the role of the president-elect of the Canadian Dental Association from a national perspective?

DR. WILLIAMS: Primarily, I have to divorce myself from being a "Maritimer" and think of the needs of dentists right across the country. The biggest challenge for me is to adopt a national feeling, to be sensitive to what dentists are saying regardless of geography. Mine is a listening role. Recently, for example, I visited Ontario and attended the ODA Board Meeting. It was a learning experience for me, one that did a lot to help me understand more about what the problems and challenges of that province really are. As president-elect, my central focus will be national, not regional.

EDITOR: Dentistry is a rapidly changing profession — both scientifically and politically. In a country such as Canada, where regulations affecting dentists vary from province to province, do you see the Canadian Dental Association as a unifying force?

DR. WILLIAMS: The role of the Canadian Dental Association, in my opinion, is to function as an information centre and create an awareness of the service we have to offer. The Canadian Dental Association should be able to give direction if it's asked for, otherwise, CDA should provide a medium for the exchange of information not only within our country but internationally as well.

EDITOR: That's an interesting concept — that CDA is not just a national

This interview with Dr. Don Williams, president-elect of the Canadian Dental Association, is the second in a series of introductions to CDA's Executive. Dr. Gil Utas, CDA president, was featured in the December, 1980 Journal. In future months, readers will meet other Council and Committee members.



Association but an international body as well.

DR. WILLIAMS: Yes. The Canadian Dental Association must be relevant in the world of dentistry in a global sense, not just at home.

EDITOR: On a more personal note, how will the demands of the office of president-elect affect your family lifestyle?

DR. WILLIAMS: We're the kind of family that does things together. We have one daughter, Natalie, 14 years

old living at home. Peter is away at university and Catherine is working in Ottawa. Even though we talked about the sacrifice of time that would be required if I became president-elect, the level of activity in the last few weeks has surprised everybody. Once the decision was made, I told my family, for the first time in my life, that the Association must come first for the next three years. Still, the decision to move ahead was made as a group with my wife Thurza and our children.

EDITOR: Dentistry is noted as one of the high-stress professions. Perhaps as a corollary to the previous question, you could give some idea of how you juggle your days to accommodate your duties as a practising dentist, president-elect and chairman of the CDA Management Committee.

DR. WILLIAMS: I'm very fortunate to have a stable office staff that's very co-operative and understanding and carries on during my time away. I practise solo but I have good friends nearby who support me professionally. My office is in an old house and a new grad who recently set up next door has also been covering my practice. Moncton is a great place to practise. It's a very active community dental-wise. The key for me as president-elect is the support I have in my office, at home and within the dental community.

EDITOR: What offices not related to dentistry do you hold in Moncton?

DR. WILLIAMS: I'm a member of the Moncton Rotary Club and serve on the Advisory Board of the Moncton Salvation Army. I'm a past member of the Board of Directors of the Moncton YMCA, a past president of

the Moncton Branch of the Victorian Order of Nurses and VON New Brunswick Inc. and a past member of the Board of Directors of VON of Canada.

EDITOR: With what dental associations have you been associated?

DR. WILLIAMS: I was secretary-treasurer of the Moncton Dental Society for four years and president for a term. I was a council member of the New Brunswick Dental Society for six years and Executive Council chairman for three. I was the NBDS member of the CDA Board of Governors for four years and served on CDA Executive Council for two years. While an Executive Council member, I was executive liaison to CDA Councils on Ethics, Dental Materials and Devices, Hospital Services and Education. I'm also a member of the Academy of General Dentistry, Pierre Fauchard Academy and FDI.

"Dentistry requires a good deal of self discipline."

EDITOR: Do you specialize in your dental practice?

DR. WILLIAMS: No. I'm a general practitioner.

EDITOR: You practise solo, but what auxiliary and support staff do you employ?

DR. WILLIAMS: I work with a hygienist, receptionist and chairside assistant.

EDITOR: There has been a lot of comment lately on the scarcity of dentists in rural and remote parts of Canada. More specifically, recent

"I don't deny there are some bad days, but the good days make up for them."

press reports have cited a shortage of specialists in rural New Brunswick. What is your opinion of the situation? Would you comment particularly on your own experience in the Maritime provinces?

DR. WILLIAMS: I don't know what reports you have read but at a recent meeting of the New Brunswick Dental Society attended by the Minister of Health for the province, we indicated that although there used to be 12 areas which qualified for provincial incentive grants, that number is now down to two or three of the most remote areas of the province and these could not support a full-time general practitioner or specialist. We do need periodontists in the east, however. There isn't one, to my knowledge, in Newfoundland or Prince Edward Island. There are five or six in Halifax and just recently one set up office in Moncton.

EDITOR: If your children indicated they wanted to attend dental school, how would you counsel them?

DR. WILLIAMS: I would encourage them. This profession provides independence. Although there are great responsibilities and commitments, you're still your own boss. Dentistry requires a good deal of self discipline.

EDITOR: If you could take yourself back in time, would you again choose dentistry as your profession?

DR. WILLIAMS: Yes, without a hesitation. I made that decision in grade nine and never wavered from it. I don't deny there are some bad days, but the good days make up for them. I'm happiest back in my office and I see my work with CDA as just an extension of my office — still serving people.

EDITOR: In closing, if you could offer one piece of advice to dental students in Canada, what would you say?

DR. WILLIAMS: I would remind them of their great responsibility to the public. Dentistry is a life of service but they will be well-satisfied if they remember they are there to serve not to be served.



INSTRUCTIONS FOR CONTRIBUTORS

(Scientific articles)

Previously unpublished articles, critical reviews of material on advances in dentistry and clinical reports are welcomed by the Journal of the Canadian Dental Association for consideration for publication. Material is accepted by the Journal on the understanding it is submitted solely to this publication.

SCIENTIFIC ARTICLES: should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

MAJOR REPORTS: are longer contributions dealing with diagnosis and treatment of dental disease, studies in education, clinical and laboratory research and other detailed investigations pertinent to dentistry and related fields.

CLINICAL REPORTS: are brief (up to 1,500 words) reports, case histories and clinical observations. References should be limited and a minimum number of illustrations used.

OPINIONS: fully documented (800 words or less), are welcome for publication at the discretion of the editor.

WORD COUNT: is based on the calculation of approximately 250 words typed, double-spaced on 8½ x 11 paper.

MANUSCRIPT REQUIREMENTS: submit three (3) copies (original and two copies) to the editor, Journal of the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6. All graphs, photographs, charts and tables must also be submitted in triplicate.

A covering letter and a summary of the submission must accompany each article. Abstracts will be translated into French. The full mailing address of the corresponding author must accompany each manuscript.

The editor reserves the right to edit manuscripts for stylistic consistency, clarity and conciseness. The corresponding author will receive a copy of the edited manuscript for checking prior to publication. Galley proofs will be forwarded to authors but changes other than correction of typographical errors will not be accepted. Authors will be given a 24-hour turn-around time. No exceptions will be made. Authors must list professional degrees, academic/hospital affiliations and appointments and are requested to submit a photograph of themselves for publication with the article.

NOTE: Manuscripts must be typed, double spaced on 8½ x 11 paper on one side of the page only. An abstract must accompany each manuscript.

ARTICLE TITLES: must be descriptive but concise and suitable for indexing. Lengthy titles are subject to editing.

LEGENDS: must be typed as a group on a separate page for all illustrations. Photomicrograph legends must specify magnification and stain.

REFERENCES: must be keyed to the text and numbered

consecutively. Journal references must give the author's name, article title, abbreviated journal name, volume number, first page number and last page number of article, year of publication:

1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. JCDA 44:173-184, 1978.

For books, give the author's name, book title, location and name of publisher, year of publication:

2. Kilpatrick, H.C. Work simplification in dentistry, ed. 2. Philadelphia, Saunders, 1964.

ILLUSTRATIONS: must be high quality and only professional-quality drawings, charts and graphs should accompany manuscripts. Color slides or negatives will not be accepted for publication. Radiographic films are not acceptable. Radiographs must be in the form of black and white glossy prints for successful reproduction. Color photographs will be published only on a limited basis and at the author's expense.

Submit three (3) sets of photographs (black and white, glossy, 3" X 5"), drawings, charts and graphs. Using a grease pencil ONLY, lightly write the name of the corresponding author and figure number on the back of each illustration and photograph. Indicate 'Top' of each illustration.

Charts and graphs are an addition to the text and should be numbered in order of appearance in the manuscript. Each table should be typed on a separate page with title and footnotes.

The Journal assumes no responsibility for artwork. Camera-ready graphs, charts and drawings only are acceptable. Tabular matter must be cleanly typewritten.

PERMISSION AND WAIVERS: must accompany the manuscript. Waivers are mandatory for the publication of photographs of patients unless faces are masked to prevent identification. Waiver forms are available from the Journal of the Canadian Dental Association, Ottawa. Permission of the author and publisher must be obtained for use of previously published material quoted in the text and for use of previously published illustrations.

COSTS: four-color illustrations are discouraged because of increasing costs of reproduction but requests for four-color illustrations will be considered on an individual basis, at the author's expense. Most articles are published at no cost to the author but a fee will be levied if extensive illustrative, formular, tabular or photographic matter is used.

REPRINTS: are available. Reprint request forms will be mailed to the corresponding author after the article is published and 25 reprints are available free of charge.

REVIEW: all scientific articles are reviewed by selected consultant referees. Acceptance or rejection of an article for publication is based on their reports plus editorial consideration. The editor reserves the right to adjust manuscripts to conform to Journal style.

PLEASE NOTE: MANUSCRIPTS THAT DO NOT CONFORM TO THE ABOVE REQUIREMENTS WILL BE RETURNED TO THE AUTHOR. PLEASE READ ALL INSTRUCTIONS THOROUGHLY.

Please direct all enquiries to: The Editor, Journal of the Canadian Dental Association.

Planning for retirement with an R.R.S.P.

In 1978, additional options were introduced for commutation of R.R.S.P.s into a retirement income. A variety of possibilities are now available to a person who is ready to deregister an R.R.S.P. The most important possibilities are mentioned below.

1) The Traditional Life Annuity

It can be obtained with no guarantee of payment after the death of the owner, or with a guarantee of five, 10 or 15 years. It can also be a joint and last survivor contract. Life annuities can only be purchased from life insurance companies.

2) Fixed Income Annuity to Age 90

Payments in fixed amounts are made to the annuitant from the date of commencement of the annuity until the year in which the annuitant reaches the age of 90. If the spouse is younger, payments may be extended to the year in which the spouse attains the age of 90. Fixed income annuities are available from trust companies and life insurance companies.

3) Registered Retirement Income Fund (R.R.I.F.)

This option provides increasing payments each year to compensate for inflation. Payments continue until age 90. In the first years after transferring the holdings in an R.R.S.P. to the fund, the annual income is comparatively small. A person who is 65 years old at the time of purchase receives 1/25 of the total amount in the R.R.S.P. in the first year. The account will appreciate or have interest added. In the second year the person receives 1/24 of the balance of the account at that time. It continues in this manner until the person reaches 90, at which time the balance of the account is paid out. The last payment is likely to be more

Recent Options			Traditional Annuities for Life			
Age	20 year annuity certain	R.R.I.F.	No Guarantee	5 years Guarantee	10 years Guarantee	15 years Guarantee
70	101.85	\$ 50.00	\$144.38	\$137.14	\$121.44	\$110.76
75	101.85	73.47	144.38	137.14	121.44	110.76
80	101.85	107.95	144.38	137.14	121.44	110.76
85	101.85	158.61	144.38	137.14	121.44	110.76
89	101.85	215.79	144.38	137.14	121.44	110.76

than six times higher than the first payment, provided the average appreciation over the years is approximately 8%.

In any of these options the annuity payments cannot start until the owner of the R.R.S.P. reaches age 60. The deregistration of the R.R.S.P. must take place, at the latest, at the end of the year in which the plan holder turns 71.

An example will illustrate what annual income can be received under the different options, for each \$1,000.00 in the account. It is assumed that the plan owner starts the annuity at age 70, and that interest is compounded at 8% per annum.

Only income from the Registered Retirement Income Fund changes from year to year. The two recent options do not pay beyond the age of 90, whereas the traditional annuities continue for life.

4) An R.R.S.P. account can be cashed in at any age

The proceeds are treated as income to the owner in the year they are received.

It is possible to make partial withdrawals over a number of years. This is accommodated by transferring the amount which the plan holder wishes to retain to a new R.R.S.P. account. The original account is then closed, and the exact amount the person wishes to receive is paid out. This option is not widely known and is not often communicated.

The department of finance holds the view that the purpose of

R.R.S.P.s is to provide retirement income for planholders and their spouses and not to provide an untaxed estate. As a result, proceeds of an R.R.S.P. on death will be taxed as income to the deceased in the year of death, if anyone other than the spouse is named beneficiary. If the deceased was already receiving payments from an annuity, the remaining payments must be commuted and brought into the taxable income of the deceased (estate), if the beneficiary is anyone other than the spouse.

This is the third in a series of articles prepared for the Journal by CDSPI. Reprints are available from the publisher.

Convention

Canadian Dental Association 1981
National Convention Calgary,
Alberta
August 30 to September 2
Contact: Jack A. Derbyshire
496 Palliser Square East
115-9 Ave. S.E.
Calgary, Alta. T2G 0P5
Phone: 403-261-5877

CDA CODE OF ETHICS

The Canadian Dental Association Code of Ethics has been updated, printed and is available free on request to all CDA members from national headquarters in Ottawa, 1815 Alta Vista Drive, K1G 3Y6.

Dr. Ralph Barolet honored by U.S. students

Dr. Ralph Y. Barolet, associate dean and professor of dental materials at Laval University, received the 1980 Alan J. Davis/SCADA achievement award recently.

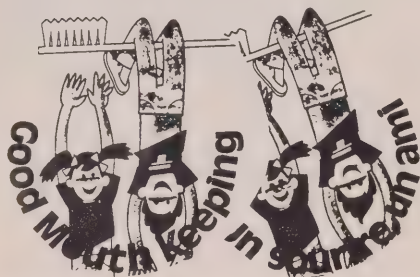
The SCADA (Student Clinicians — American Dental Association) award recognizes associates for outstanding service to SCADA, the profession or community.

Dr. Barolet was cited for his achievements in dental education and in advancing the aims and objectives of the association.

He graduated from the University of Montreal, and earned his M.S.D. degree at Indiana University. He has been on the Faculty at Laval since 1972.



Dr. Ralph Y. Barolet (right) accepts the 1980 Alan J. Davis/SCADA award from Dr. Robert W. Barrickman, immediate past president.



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The time to order dental health buttons is upon us once again. Order yours now to promote Dental Health Month, April 1981 and used as reminders of good dental health all year round.

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Calgary 1981



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August 30 to September 2

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Calgary 81, means a fun night rodeo with barbecued beef and a dance; chuckwagon breakfast; spouses program; pre-convention arranged tours, excellent lectures, table clinics and over 100 exhibits.

Congrès de l'ADC Calgary, Alberta

30 Août au 2 Septembre

C'est la fin de semaine AVANT celle de la Fête du Travail. Alors terminez vos vacances d'été en prenant part au Congrès de l'ADC.

Venez visiter Calgary avec votre famille et profitez de l'hospitalité que vous réserve l'Ouest canadien. Nous vous promettons de faire de ce congrès l'un des plus mémorables de l'ADC.

Le Congrès de 1981 comprendra une soirée de plaisir, un rodéo avec dîner au boeuf barbecue et danse, un déjeuner style "chuck wagon," des activités pour les épouses, des excursions avant le congrès, d'excellents exposés scientifiques, des conférences cliniques et plus de 100 kiosques d'exposition.

CANADIAN DENTAL ASSOCIATION DENTAIRE CANADIENNE

Au sujet des nouvelles taxes douanières

L'Association dentaire canadienne a pris l'offensive afin d'amener le gouvernement fédéral à restaurer la franchise sur les matériaux dentaires importés.

Si la proposition faite à la Chambre des Communes est acceptée, un tarif douanier d'environ 16 pour cent et une taxe de vente de 9 pour cent seront ajoutés au prix global de ces matériaux, ce qui représente une augmentation d'environ 27 pour cent sur des importations évaluées à \$20 millions.

On exhorte les dentistes à seconder l'Association en écrivant à leurs députés respectifs.

Dans une lettre adressée au Ministre des Finances, l'Honorable Allan MacEachen, le Dr Gil Utas a exprimé les idées de l'ADC sur la question. Voici cette lettre:

Monsieur le Ministre:

L'Association dentaire canadienne a pris connaissance récemment des modifications apportées aux articles 47810-I et 47900-I des tarifs douaniers, qui auront pour effet d'annuler la franchise accordée à la plupart du matériel dentaire importé et utilisé dans la pratique de la profession dentaire au Canada.

Notre Association s'oppose fermement à ces mesures qui entraîneront à coup sûr une hausse du coût des soins dentaires dispensés à la population du Canada. Grâce aux propos du ministre fédéral de la Santé et du Bien-être, les dentistes canadiens savent que l'escalade du coût des soins de santé est l'une des plus grandes préoccupations financières du pays. Or, l'imposition de droits de douane de l'ordre de 10 pour cent à 17,5 pour cent sur le matériel dentaire vient à l'encontre de ces préoccupations et du souci de restreindre la hausse de ces coûts.

Notre représentation visant à restaurer la franchise sur l'importation du matériel dentaire s'appuie sur les considérations suivantes, que nous soumettons à votre examen.

1. Les modifications apportées aux

articles 47810-I et 47900-I des tarifs douaniers entraîneront une hausse du coût des soins dentaires au Canada.

a) beaucoup de familles canadiennes, à faible revenu ou à revenu moyen, n'ont pas de régime d'assurance dentaire, gouvernemental ou privé, pour alléger le coût des soins dentaires. Le retrait du matériel dentaire, dont l'usage est le plus répandu, de la liste des articles exemptés de droits de douane imposera donc à ces familles un fardeau financier supplémentaire.

b) par leurs programmes de santé et de bien-être, le gouvernement fédéral et les gouvernements provinciaux permettent à un grand nombre de Canadiens d'obtenir des soins dentaires dont le coût est pris en considération dans la négociation annuelle des honoraires avec les gouvernements. La hausse du coût engendrée par les modifications douanières sera reflétée en 1981, dans la liste des honoraires de soins dentaires utilisée par les gouvernements ainsi que dans les guides d'honoraires utilisées par les régimes privés d'assurance dentaire, ce qui augmentera les frais des régimes d'assurance gouvernementale, soutenus par les deniers publics, de même que ceux des régimes de l'entreprise privée.

2. L'ADC comprend que l'annulation de la franchise accordée au matériel dentaire répondait à une demande de la société Johnson & Johnson Ltée, une société multinationale américaine et un important fournisseur des dentistes canadiens. Cette société ne fabrique qu'un seul produit au Canada, un amalgame spécial d'obturation. Elle détient par brevet l'exclusivité de la fabrication de ce produit fort populaire aux États-Unis.

En exigeant des droits de douane sur le matériel dentaire importé au Canada, on élimine toute concurrence dans l'importation d'autres amalgames disponibles aux États-Unis — voilà qui placerait dans une position avantageuse ce seul produit fabriqué au Canada par une société qui en

détient l'exclusivité, et ce au prix d'un coût plus élevé que les autres produits du même genre.

3. Le retrait des postes 47810-I et 47900-I de la liste des objets de franchise a aussi été demandé par la "Canadian Dental Laboratories Conference", comme mesure de protection contre l'importation de prothèses fabriquées aux États-Unis pour les dentistes canadiens. Malheureusement, tout légitime que soit cet effort, les mesures prises ont modifié, par la formulation trop globale des articles tarifaires, le caractère légal du matériel dentaire.

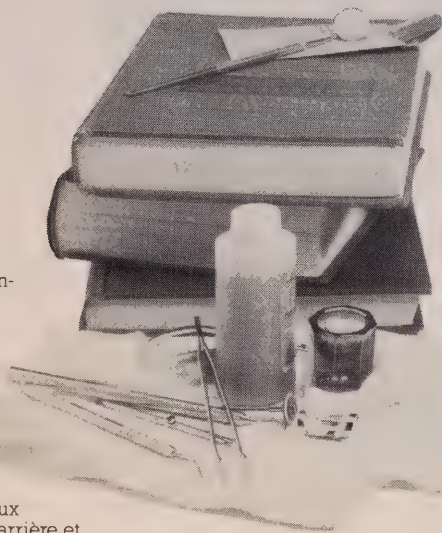
L'Association dentaire canadienne appuie fermement l'industrie canadienne des laboratoires dentaires. Sans l'apport de ces techniciens fort compétents, la profession ne serait pas en mesure de dispenser à la population canadienne des soins de grande qualité à une si grande échelle. L'Association appuie donc leur demande de soumettre les "prothèses dentaires finies" à l'imposition de droits douaniers dans le cadre des postes tarifaires. Toutefois, en se rendant à la demande de la conférence, on a touché, dans son ensemble, au coût du matériel dentaire.

En somme, l'Association dentaire canadienne est déçue de ne pas avoir été consultée ni même prévenue des modifications apportées aux postes tarifaires 47810-I et 47900-I avant la présentation d'une motion en ce sens à la Chambre des Communes. Nous sommes déçus parce qu'elles touchent un grand nombre de patients. Nous aurions espéré être mis au courant préalablement.

Comme cette consultation, n'a pas eu lieu, l'Association dentaire canadienne sollicite une rencontre où nous pourrions, avec vous-même ou vos représentants officiels, explorer les moyens d'en venir à une entente. Il est souhaitable de rétablir la franchise sur le matériel dentaire, à l'exclusion des prothèses dentaires finies qui demeureraient soumises à l'imposition de droits douaniers.

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Les Actualités

Le président de l'ADC



Le président de l'Association dentaire canadienne, le Dr Gil Utas, à droite, s'entretient avec le président-élu de l'Association dentaire américaine, le Dr Robert H. Griffiths.

Le Code d'éthique de l'ADC

Le Code d'éthique de l'ADC a été revu et réédité. Des copies sont offertes gratuitement à tous les membres de l'ADC qui en font la demande au siège social, 1815, promenade Alta Vista, Ottawa K1G 3Y6.

L'Association dentaire canadienne
Congrès national de 1981, Calgary,
Alberta

30 août au 2 sept.
Agent: Jack A. Derbyshire
496 Palliser Square East
115-9 Ave. S.E.
Calgary, Alberta
T2G 0P5
Téléphone: (403) 261-5877

C'est le Dr Ralph Y. Barolet, sous-doyen et professeur de matériaux dentaires à l'Université Laval, qui, cette année, a mérité le prix Alan J. Davis/SCADA.

Le prix SCADA (Student Clinicians — American Dental Association; les Étudiants cliniques de l'Association dentaire américaine) est décerné en récompense des services éminents qu'un assistant rend aux SCADA, à la profession ou à la communauté.

Le Dr Barolet s'est distingué par ses réalisations dans l'enseignement et par les progrès qu'il a fait réaliser à l'association.

Diplômé de l'Université de Montréal, le Dr Barolet a obtenu son M.S.D. à l'Université de l'Indiana. Il est attaché à la Faculté dentaire de l'Université Laval depuis 1972.

Le filtrage des réfugiés

Le filtrage des réfugiés indochinois a confirmé que 13 pour cent d'entre eux étaient porteurs de l'antigène hépatique de type B. C'est ce qu'a déclaré M. J.L. Fry, sous-ministre de Santé et Bien-être Canada, dans un communiqué émis le 20 novembre 1980.

Ce programme d'envergure a pris fin le 30 novembre mais, de dire M. Fry, les dentistes peuvent encore faire examiner leurs patients indochinois aux frais de Santé et Bien-être Canada.

On demande aux dentistes de chaque province ou territoire de faire parvenir les résultats aux Services médicaux de leur Division régionale.

Assemblée

Le Conseil d'administration de l'Association dentaire canadienne tiendra son assemblée interimaire les 6 et 7 mars 1981 à l'hôtel Four Seasons, à Ottawa.

Dr Barolet obtient le prix SCADA



Le Dr Ralph Y. Barolet, à droite, accepte le prix Alan J. Davis SCADA que lui présente le Dr Robert W. Barrickman, président sortant.

Étude sur la pollution par le mercure

Le Conseil des Matériaux et des dispositifs dentaires de l'Association dentaire canadienne mènera une étude-pilote dans les Maritimes. Cette étude sera la première phase d'une enquête nationale sur la pollution par le mercure dans les cabinets dentaires.

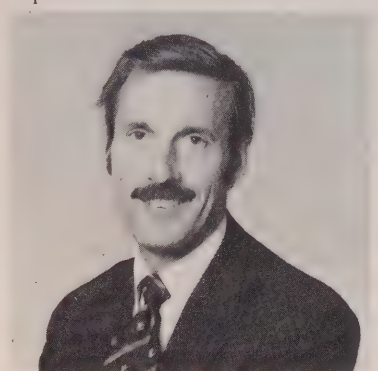
À l'aide d'un appareil renifleur de mercure Bacharach, on effectuera des tests dans dix endroits du cabinet dentaire, à savoir le lieu où est rangée la capsule d'alliage de mercure; les alentours du vibreur pour amalgame après que l'appareil a fonctionné pendant trois minutes; l'aire où l'on triture les amalgames; les espaces entre le plancher et les blocs opératoires, les fentes, etc.; les rideaux ou tentures; le récipient où sont jetés les résidus d'amalgames, quand il est ouvert, puis quand il est fermé; l'endroit où sont mises les capsules utilisées; les radiateurs et les humidificateurs; les aspirateurs; les lavabos et les collecteurs où on aurait pu placer du mercure ou des amalgames.

Pendant les prises d'échantillons, on tiendra compte du temps de la journée, du nombre de restaurations à l'amalgame faites au cours des 36 heures précédentes et de la température de la pièce. On choisira quelques cabinets "typiques" et, pour chacun, on établira les moyennes des niveaux de mercure pour chacune des huit heures de la journée ouvrable.

L'appareil utilisé a été acheté par la Faculté dentaire de l'Université Dalhousie et a coûté \$3,000. Les déplacements, les vivres, les accessoires et les dépenses diverses seront assumés par l'Association dentaire canadienne. Les cabinets visités auront aussi à acquitter des frais minimes.

On se propose de visiter la moitié des cabinets dentaires. Une seconde étude, faite en laboratoire, aura pour but de déterminer le taux de mercure chez des dentistes, des assistants et

des hygiénistes choisis au hasard et travaillant dans des cabinets où les niveaux de mercure sont élevés. Cette étude comprendrait une analyse des cheveux, des ongles et aussi, peut-être, du sang. De plus, on essaiera de déterminer quelle quantité de vapeur produisent les vibreurs pour amalgame, les capsules ou distributrices de même que les procédures suivies pour la condensation mécanique.



Dr Derek W. Jones

Dans une lettre adressée à l'Association dentaire canadienne, le Dr Derek Jones, professeur à l'Université Dalhousie et membre du Conseil des Matériaux et dispositifs dentaires de l'ADC, remarquait que si les procédures sont suivies fidèlement, le mercure ne devrait présenter aucun danger pour la santé. Certes, le mercure est toxique sous toutes ses formes, surtout comme composé organique, et peut pénétrer dans l'organisme par inhalation, ingestion ou simple contact avec la peau. Le mercure pénètre la peau sans créer de lésion, mais la plupart des cas d'intoxication sont causés par inhalation des vapeurs de mercure. Une fois dans l'organisme, le mercure se dépose dans les tissus. Il circule dans le sang pendant peu de temps seulement et c'est pourquoi les analyses de sang ne sont guère utiles pour déceler les cas de toxicité. Le mer-

cure se concentre surtout dans les tissus des reins, puis du foie, de la rate et du cerveau. Les formes inorganiques du mercure sont plus déliées. Aussi, le taux de mercure augmentant alors dans les urines, l'organisme les éliminent-elles rapidement.

Au cours des dernières années, on s'est inquiété de plus en plus des intoxications par le mercure en dentisterie. La plupart des dentistes passent la moitié de leur temps à des procédures impliquant des amalgames, que ce soit pour la pose, l'enlèvement ou le polissage, et ils mésestiment l'importance des précautions à prendre à ce sujet.

Il n'y a aucun indice biologique absolu pour déterminer quel taux de mercure cause à long terme l'intoxication par l'inhalation de vapeurs. Les tests de sang et d'urine ne sont pas satisfaisants parce que rien ne prouve que les concentrations de mercure dans le sang et l'urine, pendant et après une exposition, reflètent les concentrations dans les organes importants comme le cerveau et le système nerveux central.

Des études ont démontré que la moyenne des fuites provenant des capsules réutilisables pendant la trituration est deux fois plus élevée que celle des fuites provenant des capsules jetables. Et, bien sûr, le principal danger dans les cabinets dentaires, c'est que le mercure se répande par accident.

Il est important de noter que la quantité de mercure contenue dans l'air d'un cabinet ne correspond pas nécessairement à celle qui est ingérée ou inhalée et retenue dans les tissus de l'organisme. L'enquête projetée par le Conseil des Matériaux et dispositifs dentaires découvrira quels sont les cabinets avec des taux de mercure élevés et renseignera leurs personnels sur les mesures hygiéniques à prendre en pareil cas.

Connaissez-vous le président-élu

LE JOURNAL: Vous êtes né dans les Maritimes, vous avez étudié à la Faculté dentaire de l'Université Dalhousie et vous pratiquez au Nouveau-Brunswick. Comment concevez-vous le rôle du président-élu sur le plan national?

DR WILLIAMS: Pour commencer, je dois cesser de me considérer comme un habitant des Maritimes et penser aux besoins des dentistes du pays tout entier. La plus grande difficulté pour moi est d'adopter le sentiment national, d'être sensible à ce que les dentistes disent, indépendamment de leurs situations géographiques respectives. Mon rôle est d'écouter. Dernièrement, par exemple, je visitais l'Ontario et assistais à une assemblée du Conseil de l'ADO. Cette expérience m'a beaucoup appris. Elle m'a fait mieux comprendre les difficultés et les problèmes réels de cette province. Comme président-élu, mes principales préoccupations seront nationales et non régionales.

LE JOURNAL: La profession dentaire évolue rapidement sur les plans scientifique et politique. Dans un pays comme le Canada où les lois touchant la dentisterie varient d'une province à l'autre, considérez-vous l'Association dentaire canadienne comme une force de cohésion?

DR WILLIAMS: À mon avis, le rôle de l'Association dentaire canadienne est d'agir comme un centre d'informations et de faire connaître les services qu'elle offre. L'Association dentaire canadienne doit être capable de servir de guide au besoin. Autrement, elle doit servir à véhiculer les renseignements non seulement au pays, mais aussi sur la scène internationale.

LE JOURNAL: Voilà un point intéressant, à savoir que l'ADC est un

Cette entrevue que le Dr Don Williams, président-élu de l'Association dentaire canadienne, accordait à Elizabeth McKee, rédactrice en chef du Journal, est la seconde d'une série qui a pour but de vous présenter les membres du Conseil exécutif. Le mois dernier, nous interrogions le président de l'ADC, le Dr Gil Utas. Au cours des prochains mois, vous aurez le plaisir de connaître d'autres membres des conseils et comités.



organisme international autant que national.

DR WILLIAMS: Oui, certes. Et l'Association dentaire canadienne doit pouvoir s'imposer dans le monde dentaire en général, non seulement ici, au pays.

LE JOURNAL: D'une façon plus personnelle, comment les exigences de votre nouveau titre affecteront-elles votre vie familiale?

DR WILLIAMS: Ma famille est de celles qui font tout ensemble. Ma

femme et moi avons trois enfants: Natalie, âgée de 14 ans, demeure à la maison, Peter va à l'Université et Catherine travaille à Ottawa. Bien que nous ayons discuté des sacrifices que nous aurions à faire si je devenais président-élu, le nombre d'activités familiales au cours des dernières semaines nous a surpris. La décision une fois prise, j'ai, pour la première fois de ma vie, prévenu ma famille que j'accorderais la priorité à l'Association pendant les trois prochaines années. Il reste toutefois que ce fut une décision prise en commun avec ma femme, Thurza, et nos enfants.

LE JOURNAL: La dentisterie est reconnue comme une profession des plus stressantes. Pour donner suite à votre réponse précédente, pourriez-vous donner une idée de la façon dont vous organisez votre journée pour remplir vos devoirs de praticien dentiste, de président-élu et de président du Comité de Gestion de l'ADC.

DR WILLIAMS: J'ai la chance d'avoir un personnel de bureau stable qui coopère bien, est très compréhensif et continue à fonctionner pendant mon absence. Je suis praticien privé, mais j'ai de bons amis dans mon entourage qui sont toujours prêts à m'assister sur le plan professionnel. Mon cabinet est établi dans une vieille maison et un nouveau diplômé, venu habiter juste à côté, me remplace au besoin. Moncton est un bon endroit pour un dentiste, la communauté dentaire y est très active. Ce qui m'apportera le succès en tant que président-élu, c'est l'appui que j'obtiens au bureau, à la maison et parmi les membres de la communauté dentaire.

LE JOURNAL: Quels sont vos titres à Moncton à part ceux que vous détenez en dentisterie?

de l'ADC – Dr Don Williams

DR WILLIAMS: À Moncton, je suis membre du Club Rotary et du Conseil consultatif de l'Armée du Salut. J'ai déjà fait partie du Conseil des directeurs du YMCA, je suis un ancien président de la Division du *Victorian Order of Nurses* de Moncton ainsi que du VON du Nouveau-Brunswick, et j'ai déjà été membre du Conseil d'administration du VON du Canada.

LE JOURNAL: Quelles sont les associations dentaires dont vous faites partie?

DR WILLIAMS: J'ai été secrétaire-trésorier de la Société dentaire de Moncton pendant quatre ans et son président pendant un an. J'ai fait partie du Conseil de la Société dentaire du Nouveau-Brunswick pendant six ans et président du Conseil exécutif pendant trois ans. Pendant quatre ans, j'ai représenté la SDNB auprès du Conseil d'administration de l'ADC et, pendant deux ans, j'ai fait partie du Conseil exécutif de l'ADC. En tant que membre de ce conseil, je servais d'agent de liaison auprès des Conseils d'Éthique, des Matériaux et dispositifs dentaires, des Services hospitaliers et d'Éducation de l'ADC. Enfin, je suis aussi membre de l'Académie de dentisterie générale, de l'Académie Pierre Fouchard et de la FDI.

LE JOURNAL: Avez-vous une spécialité dentaire?

DR WILLIAMS: Non, je suis praticien général.

LE JOURNAL: Comme praticien privé, quels sont les auxiliaires et les gens que vous employez comme personnel de soutien?

DR WILLIAMS: Je travaille avec un hygiéniste, une réceptionniste et un assistant.

LE JOURNAL: Dernièrement, on discute beaucoup du nombre restreint de dentistes dans les régions rurales ou éloignées du Canada. De façon plus particulière, la presse signalait un manque de spécialistes dans les campagnes du Nouveau-Brunswick. Qu'en pensez-vous? Et qu'en dites-vous, compte tenu de votre propre expérience dans les Maritimes?

«La profession dentaire exige beaucoup de discipline personnelle»

DR WILLIAMS: Je ne connais pas les rapports dont vous parlez, mais à une assemblée que tenait récemment la Société dentaire du Nouveau-Brunswick et à laquelle assistait le Ministre provincial de la Santé, nous avons remarqué que, bien qu'il y ait eu jadis 12 régions qui se qualifiaient pour des subventions provinciales, ce nombre est tombé à deux ou trois et concerne les régions les plus éloignées de la province. Or ces régions ne pourraient pas supporter un praticien général ou un spécialiste à plein temps. Nous avons besoin de parodontistes dans l'Est, cependant. Il n'y en a pas, que je sache, à Terre-Neuve ni dans l'Île-du-Prince-Édouard. On en trouve cinq ou six à Halifax et, tout récemment, il y en a un qui s'est établi à Moncton.

LE JOURNAL: Si vos enfants désiraient fréquenter une école dentaire, quels conseils leur donneriez-vous?

DR WILLIAMS: Je les encouragerais. Cette profession procure l'indé-

pendance. Bien qu'elle comporte de nombreuses responsabilités, vous restez votre propre patron. La profession dentaire exige beaucoup de discipline personnelle.

LE JOURNAL: Si c'était à refaire, choisiriez-vous encore d'être dentiste?

DR WILLIAMS: Oui, sans hésitation. J'ai pris cette décision en neuvième année et j'y suis toujours resté fidèle. Je ne nierai pas qu'il y a des moments difficiles, mais les bons les rachètent. Je suis heureux à travailler dans mon cabinet et je conçois l'ADC comme un prolongement de mon cabinet. Aux deux endroits, je suis au service des autres.

LE JOURNAL: Pour terminer, quels conseils voulez-vous donner aux étudiants dentaires du Canada?

DR WILLIAMS: Je leur rappellerai leur grande responsabilité envers le public. La profession dentaire est une vie de dévouement. Les étudiants seront très contents d'eux-mêmes s'ils n'oublient pas qu'ils doivent servir autrui et non désirer être servis par autrui.



Options pour transformer les R.E.E.R. en sources de revenus

En 1978, on a établi d'autres façons de convertir les R.E.E.R. en revenu lors de la retraite. Diverses possibilités s'offrent actuellement aux personnes qui sont prêtes à se départir de leurs R.E.E.R. Voici les plus importantes:

1) La pension viagère traditionnelle

Elle peut s'obtenir sans garantie de paiement après la mort du détenteur ou avec une garantie de 5, 10 ou 15 ans. Ce peut être aussi un contrat conjoint fait au bénéfice du dernier survivant.

Les rentes viagères s'achètent seulement des compagnies d'assurance-vie.

2) La pension à revenu fixe jusqu'à l'âge de 90 ans

Le détenteur de la rente reçoit des montants fixes à partir du moment où la rente prend effet jusqu'au moment où il atteint 90 ans. Si son conjoint est plus jeune, les paiements peuvent se prolonger jusqu'au moment où celui-ci atteint aussi l'âge de 90 ans.

Les pensions à revenu fixe s'obtiennent auprès des compagnies de fiducie et d'assurance-vie.

3) Les fonds de pension de retraite enregistré (F.P.R.E.)

Cette option permet d'obtenir des paiements accrus chaque année afin de neutraliser l'inflation. Les paiements se font jusqu'à l'âge de 90 ans. Au cours des premières années après

le transfert des avoirs d'un R.E.E.R. dans un fonds, le revenu annuel est comparativement modeste. Une personne âgée de 65 ans au moment de l'achat reçoit, la première année, 1/25 du montant total que contient le R.E.E.R. Le compte prendra de la valeur ou accumulera de l'intérêt. La seconde année, la personne reçoit 1/24 du solde du compte à ce moment. Il en va ainsi jusqu'à ce qu'elle ait 90 ans et, alors, le solde du compte lui est remis en entier. Le dernier paiement sera vraisemblablement plus de 6 fois supérieur au premier, à condition que la moyenne de la hausse annuelle soit d'environ 8%.

Pour toutes ces options, les paiements de la pension ne peuvent commencer avant que le détenteur n'ait atteint 60 ans. De plus, le participant d'un R.E.E.R. doit s'en départir au plus tard à la fin de l'année où il compte 71 ans.

Un exemple illustrera quels seront les revenus annuels des différentes options pour chaque tranche de \$1,000.00 déposée. On prend pour acquis que le détenteur du régime commence à toucher sa rente à 70 ans et que le régime bénéficie d'un intérêt composé de 8% par année.

Seul le revenu du *fonds de pension de retraite enregistré* change d'une année à l'autre. Les deux dernières options sont valables jusqu'à 90 ans seulement alors que les pensions traditionnelles le sont pour la vie.

Les deux dernières options			Les pensions viagères traditionnelles			
Âge	Pension annuelle assurée pour 20 ans	F.P.R.E.	sans garantie	garantie de 5 ans	garantie de 10 ans	garantie de 15 ans
70	101.85	\$ 50.00	\$144.38	\$137.14	\$121.44	\$110.76
75	101.85	73.47	144.38	137.14	121.44	110.76
80	101.85	107.95	144.38	137.14	121.44	110.76
85	101.85	158.61	144.38	137.14	121.44	110.76
89	101.85	215.79	144.38	137.14	121.44	110.76

4) Les argents placés dans un R.E.E.R.

Peuvent être encaissés à n'importe quel âge. Les montants sont considérés comme des revenus pour l'année où ils sont touchés.

Il est possible de faire des retraits partiels échelonnés sur plusieurs années. Pour ce faire, le participant du régime transfère le montant qu'il désire retenir dans un nouveau R.E.E.R. Le compte original est alors fermé et le montant précis qu'il désire recevoir lui est remis. Cette option n'est pas très connue et il est rare qu'on en fasse part aux participants.

Revenu Canada considère que la participation à un R.E.E.R. a pour but de fournir un revenu aux participants et à leurs conjoints au moment de la retraite et non de constituer un capital exempt d'impôts. Par conséquent, les sommes accumulées dans un R.E.E.R. au moment du décès d'un participant seront taxées à titre de revenus pour l'année où il est décédé, si une personne autre que son conjoint est nommée bénéficiaire. Si le défunt recevait déjà une pension, les argents restants doivent être repris et imputés à son revenu imposable, à condition encore une fois que le bénéficiaire soit quelqu'un d'autre que son conjoint.

Écussons

L'Association dentaire canadienne offre maintenant des écussons de l'ADC à ses membres. Comme leur nombre est limité, commandez le vôtre dès maintenant pour ne pas risquer d'être déçu.

L'écusson a été conçu pour être porté sur la poche d'un veston et est fait de tissu noir avec des fils d'or figurant l'emblème de la profession dentaire au Canada. Son prix est de \$12. Adressez votre commande à Kathy Mactaggart, l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6. On vous prie d'effectuer votre paiement à l'avance par chèque ou mandat postal.

Une association dynamique!

Les dentistes seront préoccupés par trois sujets principaux en 1981, soit les impôts, la main-d'oeuvre et les soins prodigués par rotation. Au cours des prochains mois, de dire le Dr Covit, président du Comité de Recrutement, on se propose de s'occuper de chacun de ces sujets.

L'ADC a déjà commencé à faire des pressions auprès du gouvernement fédéral pour qu'il revienne sur sa décision d'imposer une taxe d'environ 27 pour cent sur certains matériaux dentaires importés au Canada.

L'ADC mettra à l'essai des programmes d'administration de soins par rotation et renseignera ses membres sur les résultats.

L'ADC étudiera les besoins de main-d'oeuvre dentaire de manière à assurer toujours de meilleures normes pour les soins donnés à tous les Canadiens.

Le Dr Covit a également indiqué que l'ADC lancera une importante campagne de fluoration tôt cette année. Il a fait état du succès du Programme d'assurance des dentistes canadiens dont les primes n'augmenteront pas pour trois ans encore. De plus, a-t-il dit, "nous examinerons attentivement les R.E.E.R."

L'Association dentaire canadienne a un rôle décisif et favorable à jouer touchant la législation et les autres changements qui affecteront la profession dentaire au Canada au cours de l'année qui vient, a poursuivi le Dr Covit.

Pendant qu'il était président, le Dr Covit a travaillé avec l'Association et il a vu l'importance grandissante qu'elle prenait dans ses négociations avec le gouvernement fédéral. Ainsi, grâce au Comité des Questions fiscales, le taux d'imposition des sociétés qui gèrent les pratiques professionnelles est passé de 50 à 33 1/3 pour cent. Le même comité a, avec succès, fait des pressions afin d'obtenir des déductions d'impôts pour les dépenses encourues en éducation permanente.

Par ailleurs, l'ADC a démontré aux

organismes gouvernementaux qu'il y avait un urgent besoin de fonds supplémentaires pour la recherche dentaire.

Et ce fut sur une initiative de l'ADC aussi que le gouvernement fédéral a entrepris le filtrage des réfugiés indochinois pour détecter les sujets porteurs du virus hépatique de type B.

En commentant l'avenir de l'Association, le Dr Covit a déclaré: "Nous avons connu des succès dans le passé et nous continuerons à travailler au nom des dentistes du Canada pour que le public ainsi que la profession en tirent des avantages à long terme."

Nomination

Le Dr Pierre Desautels, professeur agrégé à la Faculté dentaire de l'Université de Montréal, a été nommé rédacteur scientifique pour les articles français soumis au Journal de l'Asso-

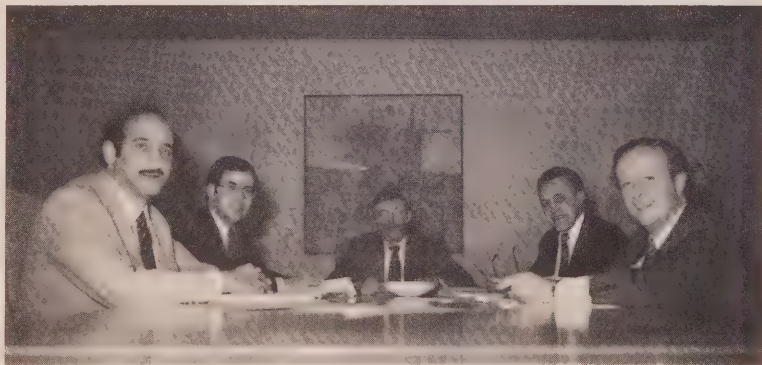
ciation dentaire canadienne. Diplômé de l'Université de Montréal, le Dr Desautels détient également une Maîtrise en matériaux dentaires de l'Université de l'Indiana.

Le Journal de l'Association dentaire canadienne a une politique très nette touchant les articles scientifiques et le Dr Desautels a accepté de former une équipe d'examineurs pour les articles rédigés en français.

Comme le Journal de l'Association dentaire canadienne offre aux auteurs francophones la chance d'être lus aussi bien en Europe, en Extrême-Orient, en Afrique et en Amérique du Sud qu'au Canada et aux États-Unis, on espère que la partie scientifique française du Journal s'améliorera considérablement au cours des 12 prochains mois.

On prie les intéressés de lire le Guide à l'intention des collaborateurs qui paraît dans ce numéro et d'en suivre les directives. Les articles doivent être envoyés à la rédactrice en chef du Journal de l'Association dentaire canadienne, au 1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6.

Fédération dentaire internationale



Le Comité de Gestion de l'ADC a rencontré le directeur exécutif de la FDI, le Dr Jan Erik Ahlberg, le 14 novembre dernier, à Ottawa. Sur la photo, on remarque de gauche à droite le Dr Clyde Covit, président sortant; M. Hubert Drouin, directeur général; le Dr Gil Utas, président; le Dr Ahlberg et le Dr Don Williams, président élu. À cause de certaines injustices, l'Association dentaire canadienne avait annoncé son retrait de la FDI. Maintenant qu'elles sont en partie réparées, le Conseil exécutif recommandera au Conseil d'administration, en mars, de revenir sur sa décision et d'encourager ses membres à se joindre à la FDI. La cotisation annuelle est de \$35. Ainsi l'ADC continuera d'être membre de la FDI jusqu'au congrès qui se tiendra à Rio de Janeiro, au Brésil, du 5 au 9 septembre 1981.

Hepatitis B surface antigen and antibody prevalence

(a survey at the College of Dentistry, University of Saskatchewan)

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ABSTRACT

The College of Dentistry at the University of Saskatchewan recently conducted a survey for the prevalence of hepatitis B surface antigen (HBsAg) antibody (Anti-HBsAg) in the serum of full and part-time faculty, dental residents, dental students, and dental auxiliaries, to indicate the risk of exposure to HBV.

Of 138 persons who voluntarily participated in this screening test for HBsAg and Anti-HBsAg, the prevalence of HBsAg was 0 per cent, and the prevalence of Anti-HBsAg was 2.9 per cent. Our results were significantly lower than that of healthy volunteer blood donors matched for age, sex and ethnic origin in the City of Saskatoon region.

Thus, at the present time, it is reasonable to conclude that full-and part-time faculty, dental residents, dental students and dental auxiliaries at the College of Dentistry, University of Saskatchewan are not at increased risk of acquiring HBV infection or becoming HBV carriers.

The prevalence of hepatitis B virus (HBV) infection in modern society has increased almost 10-fold since 1967.¹ Although this reported increase is partially due to improved and more specific techniques to detect HBV and better documentation, particularly in the dental field, it is largely because of the change in social customs (such as drug abuse and homosexuality) and medical practice which allows hepatitis B infective patients to live more active lives in their communities.²

Professional personnel who provide health care services, such as physicians (particularly surgeons and pathologists) and medical laboratory technicians (particularly haematologists and phlebotomists),³ have long been suspected to be at greater risk of acquiring HBV infection than socio-economically comparable groups.⁴ Dentists⁴⁻⁶ and dental auxiliaries⁶⁻⁹ have also been identified as susceptible groups. It has been shown that hepatitis B surface antigen (HBsAg) is present continuously or intermittently in blood^{4,6-8, 10-15} and saliva¹⁶⁻¹⁸ of HBV patients. Saliva appears to contain HBsAg, even in the absence of blood¹⁹ and is at least intermittently present in most, if not all, carriers.¹⁷ A high risk of acquiring HBV infection has been documented in the dental profession.^{7,8,20-22} Several HBV carrier dentists in the United States have transmitted HBV infection to their patients.²³⁻²⁵ Therefore, this infection can be considered a potential hazard in dental practice.

Although dentists in general may constitute a high risk group for HBV infection, there are accumulating data indicating that increased risk of acquiring HBV infection among all groups of dentists is not always great. Dentists in Canada,¹⁴ Denmark,¹⁵ England,^{10,11} Israel²⁶ and Norway²² failed to show increased attack rates as compared with that found in the control group of general healthy population.

On the other hand, the incidence of HBV infections among dentists practising in Auckland, New Zealand¹¹ and American dentists^{4,5,7,15} appears to be rising. In the United States, about 13 per cent of general dentists recently acquired HBV, compared to four per cent of the general population.²⁵ The Center for Disease Control of the United States Department of Health, Education and Welfare (Public Health Service), considers HBV infection an occupational hazard for dental personnel, especially those frequently exposed to blood and saliva, such as oral surgeons and periodontists. These groups acquire HBV infection approximately six times more frequently than the general population.²⁷

The present survey was carried out to evaluate the risk of acquiring HBV infection among full- and part-time

faculty, dental residents, dental students and dental auxiliaries at the College of Dentistry, University of Saskatchewan.

METHOD OF STUDY

1. Study population

The College of Dentistry at the University of Saskatchewan has 21 full-time faculty members in various clinical and basic science departments and 30 part-time faculty from among the practising dental profession teaching in the various departments at both the clinical and pre-clinical levels. The college has two dental residents in the Dental Department of the University Hospital; the current residents are both graduates of American dental schools. The college has 10 dental auxiliaries (2 registered nurses in the Oral Surgery Department, 6 dental assistants in the dental clinic and 2 dental assistants in the hospital dental department).

The student body numbers 107: Year I — 25 (six females; Year II — 23 (six females); Year III — 20 (three females); Year IV — 19 (three females; Year V — 20 (0 females). Of the total, 97 are caucasians, five Chinese (three Canadian-born and two natives of Hong Kong) and three East Indians (two native and one American-born).

Prior to the screening test for HBsAg and Anti-HBsAg, information was distributed to all faculty members, dental residents and auxiliaries, and dental students, to inform them of the status of HBV infection in relation to dentistry, about the risks of HBV infection among the dental profession, and the purpose of the screening test. A medical questionnaire and consent form were sent with this information. Questionnaires were confidential and were summarized by one of us only. Special meetings were arranged for students, residents, clinical staff and faculty to explain the practical, moral and legal implications of this testing program.

2. Collection of sera

Blood specimens were collected in November, 1979 by several phlebotomists in the Chemical Pathology Department at the University Hospital. All the sera were kept at -20°C until tested.

3. HBsAg testing

The presence of HBsAg was determined by radioimmunoassay using commercially available "Abbott Ausria™125I".

Table 1

Prevalence of HBsAg and Anti-HBsAg among full- and part-time faculty, residents, clinical staff and students

Groups	No. of sera tested (% of total groups)	HBsAg Positive	Anti-HBsAg Positive	Total
Full-time faculty	12 (57%)	0 (0%)	0 (0%)	0 (0%)
Part-time faculty	14 (47%)	0 (0%)	1 (7.1%)	1 (7.1%)
Dental residents	2 (100%)	0 (0%)	0 (0%)	0 (0%)
Clinical staff	10 (100%)	0 (0%)	1 (10%)	1 (10%)
Dental students:				
Year I	21 (84%)	0 (0%)	0 (0%)	0 (0%)
Year II	23 (100%)	0 (0%)	0 (0%)	0 (0%)
Year III	20 (100%)	0 (0%)	2 (10%)	2 (10%)
Year IV	17 (89%)	0 (0%)	0 (0%)	0 (0%)
Year V	19 (95%)	0 (0%)	0 (0%)	0 (0%)
TOTAL	138 (81.2%)	0 (0%)	4 (2.9%)	4 (2.9%)

4. Anti-HBsAg testing

The presence of antibody to hepatitis B surface antigen (Anti-HBsAg) was detected by a radioimmunoassay using hepatitis B surface antigen¹²⁵I (AusAb® test of Abbott Laboratories).

5. Analysis of data

The data were analyzed in a standard manner and correlations completed using Student's T test.

One hundred and thirty-eight persons out of 170 possible subjects (81.2 per cent) participated in this study. The distribution among subject groups is shown in Table 1.

RESULTS

I. Serum Survey

The results of the serological survey for the prevalence of HBsAg and Anti-HBsAg among full- and part-time faculty members, dental residents, clinical staff and dental students are summarized in **Table 1**. Of the 138 persons, over-all prevalence levels were zero for HBsAg and 2.9 per cent for Anti-HBsAg. No significant differences in the prevalence of HBsAg and Anti-HBsAg were observed among the five study groups.

II. Questionnaire Survey

The results of the questionnaire survey in relation to several potential factors which may influence the acquisition of HBV infection are as follows:

1. Average years of dental practice and age

There was no positive correlation between the results of the serologic test, the average years of dental practice and the age of the participants.

2. Types of dental specialty and seropositivity of HBsAg and Anti-HBsAg

There was no significant correlation between the prevalence of HBsAg and Anti-HBsAg and the types of dental specialty which may belong to higher risk groups.

3. Application of surgical gloves during clinical procedures and/or examining dental patients

Most of full- and part-time faculty members, clinical staff and third, fourth and fifth year students use surgical gloves on special occasions only and not routinely during examination and/or clinical procedures.

4. Summary of the estimated accidental skin puncture

There was no significant correlation between reported accidental skin puncture and the incidence of HBsAg positive and Anti-HBsAg positive.

5. Previous contact with a patient who was jaundiced or had HBV infection

Of 138 participants, 24.6 per cent had treated patients who were jaundiced or had HBV infection, whereas 53.0 per cent had no experience treating patients who were jaundiced or had HBV infection. About 22.3 per cent were not aware if they had or had not treated these patients.

6. Previous history of HBV infection among participants

There were two participants (one part-time faculty and one student) who had symptomatic HBV infection; two participants (one dental assistant and one student) had *asymptomatic* HBV infection, but were not aware of the infection at that time.

7. History of jaundice in participants

Six subjects gave a history of jaundice. However, the results of their HBsAg and Anti-HBsAg test were negative, indicating that the causes were other than HBV infection.

8. Participants' history of diseases or conditions other than HAV and HBV infections

No relationship was noted between the history of systemic diseases, such as arthritis, cancer, diabetes, kidney disease, heart disease, etc. and the incidence of HBV infection.

DISCUSSION

Serum survey

It is commonly believed that members of the dental profession are at increased risk in contacting HBV as compared with similar socio-economic groups in the general population.^{4,5,12,19} Also, certain dental specialty groups, such as oral surgeons,^{3-5,7,10,11,14,19,21-23,25,28} periodontists,^{4,7,11,28} orthodontists^{7,11,29} are at higher risk than dentists in general practice.

In this study the prevalence of HBsAg and Anti-HBsAg is low. In fact it is somewhat lower than that found in healthy volunteer blood donors matched for age, sex and ethnic origin in the City of Saskatoon region.³⁰ Due to the limited numbers of subjects inherent in the College of Dentistry study population, statistical interpretation of the results is limited. Nonetheless, trends can be identified and data of comparative value for other dental colleges have been established. Of the 12 full-time faculty members who participated, neither HBsAg nor Anti-HBsAg was found in their blood samples. Four full-time faculty (2 oral surgeons, 1 periodontist and 1 orthodontist), who belong to "high-risk groups", were also negative. Of the 14 part-time faculty members (47 per cent), the prevalence of HBsAg was 0. Only one part-time faculty was Anti-HBsAg positive. He became jaundiced from an unknown source at age 36, but no other members of his family, dental office personnel, or patients became ill.

Although the numbers of full-time faculty who voluntarily participated in this screening test for HBsAg and Anti-HBsAg were few (61%), it is realistic to conclude that the possibility of acquiring HBV during their practice and/or supervising role in the dental clinic at the College of Dentistry is low. This low prevalence of HBV infection could be explained by (1) low prevalence of HBV in the community, (2) the nature of teaching and/or supervising duties as a faculty member, (3) relatively fewer contacts

with dental patients than general dentists, and (4) the practice of aseptic dentistry in the dental clinic.

In 1972, Mosley et al⁵ surveyed the prevalence of HBV infection among part-time faculty at the School of Dentistry, University of Southern California. They reported the attack rate of HBV for part-time faculty was 3.2 per cent. In our study, part-time faculty seem to be at a much lower risk.

Our results support a hypothesis by Berris et al,¹² that Canadian dentists do not belong to a high-risk group for acquiring HBV infection. In their survey at the 1977 annual meetings of the International College of Dentistry and the Toronto Dental Academy, only one Canadian dentist (who was Canadian born) among 288 participants was HBsAg positive. This probably reflects the low prevalence of HBV in the general Canadian population.

Among 10 clinical staff, the prevalence of HBsAg was 0 per cent. One dental assistant was Anti-HBsAg positive. This low prevalence is in agreement with the findings of Hollinger et al¹⁵ and indicates that the risk for dental auxiliaries of acquiring HBV appears to be low and may not be different from that of a comparable socio-economic group in the general population.

Among dental students, the prevalence of HBsAg was 0 per cent. Two students (two per cent) were Anti-HBsAg positive; both came from Asian countries where the prevalence of HBV infection is relatively high.²⁰ Our results regarding the prevalence of HBsAg and Anti-HBsAg among dental students were comparable with a small group of medical students at the College of Medicine, University of Saskatchewan.³¹ However, the prevalence was much lower than that reported by Hollinger et al.¹⁵ In their study, 27.7 per cent of fourth-year dental students had evidence of exposure to HBV. The implications of our study are that dental students at the University of Saskatchewan are not at a great risk of acquiring HBV infection. This probably reflects the low prevalence in their community as compared with other locations where the level may be higher.

Questionnaire Survey

No significant correlations were found between serologic evidence of exposure to HBV and responses to the questionnaire. This may be due to extremely low prevalence of HBsAg and Anti-HBsAg carriers in the participants. Several important factors with regard to acquisition of HBV infection by dental personnel are discussed below.

A relationship has been documented between age and number of years in dental practice and the occurrence of HBV infection.^{4,5,12,13,28} This relationship is not seen in our study for either full- or part-time faculty members who practise on a regular basis. This is probably due to the relatively young age and limited years in practice of these groups (38 and 11 years, respectively).

Several studies indicate that dental specialists who have greater exposure to blood and saliva in their practices show a higher incidence of serologic evidence of HBV infection than general practitioners.^{4, 7, 11, 12, 28, 29} At the College of Dentistry, full-time faculty members who belong to these high risk group specialties and who participated in this survey (2 oral surgeons, 1 periodontist and 1 orthodontist) revealed no seropositivity.

There is no direct evidence that surgical gloves will significantly reduce the chances of transmission of HBV.⁷ However, it has been recommended they be used during clinical procedures and/or examining patients, since the gloves may avoid or minimize skin punctures by sharp dental instruments which may be contaminated with infected blood and/or saliva,^{3-5, 7, 10} and to protect cuts or abrasions.

Our results did not show a correlation between the prevalence of HBV infection and the use of surgical gloves.

Neither the incidence of accidental skin puncture or previous contact with a patient who was jaundiced or had HBV infection was related to a positive serological response. This is most likely due to the low prevalence of HBV among patients in this community.

There was no correlation between a reported history of HBV infection among participants and positive serological findings. Although six subjects have experienced jaundice, the results of present tests are negative for all six. This suggests that the cause of their jaundice was other than HBV infection. Thus, neither a history of jaundice nor a statement of past hepatitis B infection can be considered a reliable indication of actual HBV infection.

Other Considerations

There is a direct correlation between the prevalence of HBV infection in the general population and the socioeconomic status of the community, i.e., more HBV carriers are found in the low socio-economic community.²⁹ It is well established that HBV carriers, the clinical picture of HBV and the role of vertical transmission show considerable geographic variation from country to country, and even within the same country.

For example, there are few HBV carriers in England,⁵ Canada,¹² Denmark,¹³ Norway,¹⁴ and Israel,²⁴ compared with the United States,^{4, 5, 15, 28} New Zealand¹¹ and the Asian countries.²⁰ There are, however, considerable geographical variations within any one country (e.g., Canada,³¹ the U.S.A.⁵ and New Zealand¹¹).

In this regard, the City of Saskatoon is a middle-class Canadian city with approximately 150,000 population and the prevalence of HBV carriers is less than 0.1 per cent of the total population. Therefore, the threat of exposure to HBV is low and risk of infection due to HBV is very limited. Consequently, dental patients with HBV carrier status, who visit our dental clinic, are few in number. Nonetheless we have advocated the use of the principles of

"aseptic dentistry" in the College Dental Clinic. Not only are these precautions simple but they also develop habits in the students that will serve them well in the future.

Dental personnel can adequately protect themselves from acquiring HBV or other infectious diseases by dental asepsis, such as efficient sterilization of all dental instruments and materials by ethylene oxide gas sterilizer and steam autoclaves, and close attention to maintenance of sanitation levels in the dental clinic with the use of chemical disinfectants. They are encouraged to use surgical gloves, masks, and safety glasses whenever they treat known and potential HBV carriers.

There has been renewed interest in HBV infection because of the high level of HBV carriers among refugees currently entering Canada. This issue has created great anxiety among both members of the dental profession and the public in this country, since the prevalence of the HBV carrier state in those refugees is as high as 15 per cent (both Canadian and American Dental Associations).

According to these figures, more than a 50% increase in HBV carriers has occurred in the Saskatoon area with the immigration of South-East Asian refugees. However, there has been no outbreak of HBV infection, nor of any other communicable disease.

Many groups in the population have been identified as having a higher rate of carriers. These include physicians (particularly surgeons, and pathologists), medical laboratory technicians (particularly haematologists and phlebotomists), nurses, personnel of renal transplant units, patients undergoing renal dialysis, dentists (particularly surgical specialists), mentally retarded and institutionalized children, drug addicts, male homosexuals and people from geographic areas of high HBV.^{4, 6-9, 20-22, 28, 32} Once these at-risk groups are identified, adequate precautions must be taken. Carriers of HBV do not pose a threat to the dental profession as long as reasonable precautions are taken when treating potential carriers and carriers.

SUMMARY

At the College of Dentistry, University of Saskatchewan, the evidence of HBV infection among full- and part-time faculty members, dental residents, dental students and their auxiliaries (registered nurses and dental assistants) was virtually zero. This extremely low prevalence of HBV infection among the dental personnel at this college may be due to the following factors:

1. Socio-economic status

Socio-economically, the City of Saskatoon is a middle-class city in which the prevalence of HBV carriers is less than 0.1 per cent of the total population, although there is increased immigration to the city from areas where there is a higher prevalence. The results of HBsAg and Anti-HBsAg testing of these persons are available from the Public Health Department.

2. Aseptic dentistry

- i) Sterilization of all re-usable dental instruments, especially tissue-penetrating instruments, and dental materials.
- ii) Disinfection of environmental surfaces in the dental cubicles by chemical disinfectants.
- iii) Dental personnel are encouraged to use gloves and safety glasses routinely.
- iv) Masks, gloves and safety glasses are worn during treatment of patients with infectious diseases.

3. The Degree of patient exposure

A contributing factor to the low prevalence of HBsAg and Anti-HBsAg observed could also be the smaller number of patient contacts of the faculty, residents, students and their auxiliaries at the College as compared with private practice.

The risk of acquiring HBV infection in general appears to be low.²³ However, in spite of the low prevalence, a risk of exposure to this and other communicable disease does exist, and change in the characteristics of a dynamic population can occur.

A chronic carrier state of HBsAg is a potentially infectious state for HBV infection whether or not it has resulted from symptomatic or asymptomatic HBV infection.³⁰ Identification of groups at higher risk of carrying HBV is necessary. Precautions that can be taken to guard against transmission of infection are inexpensive and reasonable and once established, can easily be applied both to patients with infectious diseases (including HBV) and to the general population.

At dental schools and private dental offices, reasonable precautions designed to prevent transmission of HBV should be routinely applied in treatment of all patients. It is our firm belief that the dental profession can adequately protect itself and its patients from acquiring HBV or other infectious diseases by simple and reasonable precautions.

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Mandibular subperiosteal implants

(a retrospective analysis in light of the Harvard Consensus)

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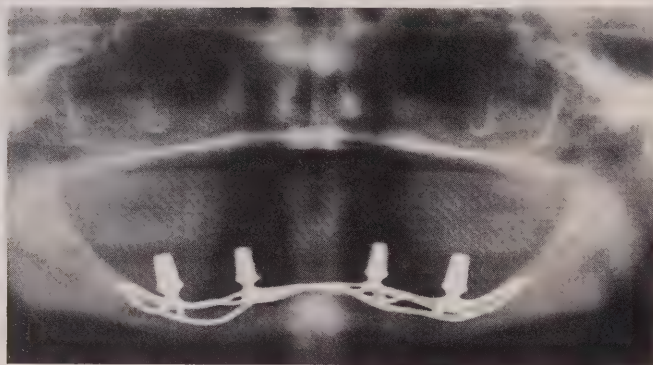


Figure 1: Panoramic radiograph view of subperiosteal implant.

Dental subperiosteal implants have been in use for 30 years. Although they have not proven to be the great panacea for handicapped denture patients, they have restored adequate masticatory function to certain persons who could not be helped by conventional means.

Early designs and materials soon gave way to the presently accepted design and the chrome-cobalt alloy. Various practitioners and investigators¹⁻⁵ have reported great differences in their success rate as well as in their own definition of success. As a result, practitioners have been inundated by material from studies, statistical analyses and personal observations which, as often as not, are only marginally helpful. It had been obvious for some time that standards were needed to outline indications, contraindications and success rate of various implants for the use of practitioners, researchers and patients.

Such standards were developed⁶ at a conference on dental implants, known as the Harvard Consensus. It was held under the auspices of the National Institute of Health, Washington, D.C., and well-recognized experts in the field of implants as well as related disciplines participated. Recommendations of the conference were well received by the Council on Dental Materials and Devices of the American Dental Association.

This study evaluates our own experiences in the field of subperiosteal implants, in the light of these newly pro-

posed criteria. We also analyse some factors that could be responsible for the success or failure of an implant.

SAMPLE

The sample consisted of 17 patients, all female, referred to the Maxillary Atrophy Clinic because of masticatory problems associated with a deficient ridge of the mandible and an unstable lower denture. The mean age of the group was 54 years. The majority (88 per cent) had had all teeth extracted at one appointment at a mean age of 30 years. They were classified in either the severe or the extremely severe groups of atrophy, with a mean S.L. value of $452 \text{ mm}^2 \pm 63 \text{ S.D.}$ The S.L. value was obtained by planimetric measurement of a certain area of the mandible.⁷ For comparison, the control group, made up of non-edentulous patients with no apparent alveolar bone loss, displayed a mean S.L. value of $1170 \text{ mm}^2 \pm 18 \text{ S.D.}$

A total subperiosteal implant was used, with basically the same technique for each case (Fig 1), in a two-stage procedure. The patient was admitted to hospital and in the first session the residual ridge was exposed and an impression taken with a rubber base material. Two days later, under antibiotic coverage, the cast implant was inserted. It was retained on the bone by close adaptation of the implant to the residual ridge and by its extension below the

TABLE 1
FUNCTIONAL SERVICE

SUBJECTIVE						OBJECTIVE							RATING	
Case	Years	a	b	c	d	b	c	d	e	g	h	i	Patient	Observers
1	6.0	x	occ.	x	x	x							Fair	Poor
2	4.5	x	x	x	x	x	x	x				x	Good	Good
3	4.4	x	x	x	x	x	**	x	x	x	x	x	Good	Good
4	4.3	x	occ.	x	x	x	x	x		x			Good	Fair
5	4.2		occ.	x		*	x	x		x		x	Poor	Fair
6	4.2	x	x	x	x	x	x	x	x	x	x	x	Good	Good
7	4.0	x	x	x	x	x	**	x	x	x	x	x	Good	Good
8	3.5	x	occ.	x	x	x				x	x	x	Fair	Poor ***
9	2.7	x	occ.	x	x	x				x			Poor	Poor+removed
10	2.7	x	x	x	x	x	x	x		x		x	Good	Fair
11	2.7	x	x	x	x	x	**	x	x	x	x		Good	Good
12	2.6	x	x	x	x	x	**	x	x	x	x	x	Good	Good
13	2.5	x	x	x	x	x	**	x	x	x	x		Good	Good
14	2.5	x	occ.	x	x	x		x		x			Fair	Fair
15	2.5	x	x	x	x	x	**	x	x	x	x	x	Good	Good
16	2.3	x	x	x	x	x	**	x	x	x	x	x	Good	Good
17	0.7	x	x	x	x	x	**	x	x	x	x	x	Good	Good

Occ.: occasional pain

* the posts were not parallel to each other and were corrected in the mouth

** no visible inflammation or symptoms

*** patient does not want implant removed

mylohyoid ridges. No screws were utilized. The two surgical procedures were performed under local anesthetic and sedation. A one-month observation period was allowed before proceeding with the prosthetic reconstruction.

METHOD OF EVALUATION

The implants were inserted between December, 1973 and March, 1979 and the mean observation period was 34

months. All patients were evaluated by a panel consisting of the oral surgeon, the dentist who originally completed the cases and another presently associated with the clinic. The evaluation was completed by means of a questionnaire and radiographs.

THE HARVARD CONSENSUS

Definition of functional service (patient):

(a) provide adequate function; (b) no discomfort; (c) improved aesthetics; (d) improved emotional and psychological attitude.

Definition of functional service (observers):

(a) bone loss no greater than 1/3 of vertical height of implant; (b) good occlusal balance and vertical dimension; (c) gingival inflammation amenable to treatment; (d) mobility less than 1 mm in any direction; (e) absence of symptoms and infection; (f) absence of damage to adjacent teeth; (g) absence of paresthesia or anesthesia, or violation of the mandibular canal or floor of the nose; (h) healthy collagenous tissue.

The Consensus applies itself to define the success of an implant from the point of view of functional service. It also provides a grading to three aspects of implant health: (a) the implant mobility: in 1-mm intervals; (b) the implant sinking: from grade 1: no sinking, to grade 5: over 3 mm sinking; and (c) the gingival health: from grade 1: no inflammation, to grade 2: mild inflammation, grade 3: moderate inflammation, grade 4: severe inflammation.

CRITERIA FOR EVALUATION

The Harvard Consensus covers all types of implants. Certain criteria are not suitable for the evaluation of a subperiosteal implant. For example: the observers' criteria (a) and (f) apply to intraosseous implants and are not used because of the total absence of teeth with subperiosteal implants. Also, the mobility of an implant cannot be measured in 1 mm increments when there are no teeth to serve as reference points. It is either clinically mobile or not. It was also felt that a sub-division in patient's criterion b): no discomfort should be included to cover the occasional discomfort case. We also added a "no frame exposure" qualification criterion(i).

Finally, there is a need to develop an accurate radiographic method of evaluating implant sinking. The consensus defines sinking by linear measurements in millimeters of any radiolucent area under an abutment or a major strut. It is easy to see the great image distortion encountered with the panoramic views by superimposing one film over another of the same case.

IMPLANT SINKING RADIOGRAPHIC EVALUATION

A cephalometric technique was used. By superimposing the film taken at the time of insertion with the latest one, the positive, negative or null distortion value corresponding to the difference in the overall outlines of the metallic structure is obtained (Fig 2). This image distortion error is either added to, or subtracted from, the linear measurements taken on each film from the base of an anterior post to the inferior border of the mandible.

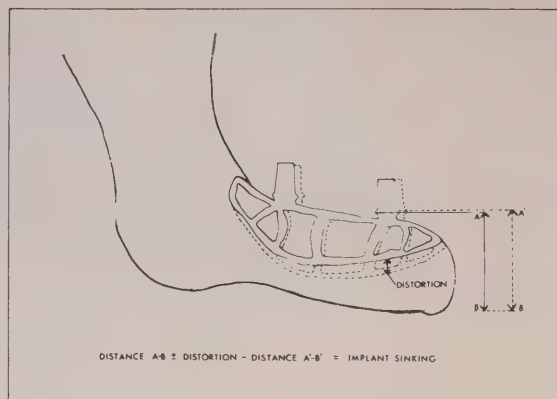


Figure 2: Radiographic method to determine implant sinking.

RESULTS

Functional service (Table 1)

There is an obvious discrepancy between the patient's opinion on the functional service of the implant and the observer's point of view. The only implant (case #5) rated poor by the patient and fair by the observers displays some mild inflammation at one post only. With proper treatment, it will probably be serviceable for many more years. The observers rated three out of the 17 cases (17 per cent) as failures, 10 out of 17 (60 per cent) as being successful, and the rest (23 per cent) as fair. This study allows certain observations:

1. A great deal of difference exists between the patient's and the observer's opinion.
2. Those patients who endure discomfort and even pain, will only reluctantly agree to have the implant removed. The explanation may lie in the aesthetic gain provided by the implant.
3. Metal exposure criterion (i) does not necessarily relate with the quality of the implant (as seen in cases 4, 11 and 13).

Gingival health and implant sinking (Table 2)

It is known that subperiosteal implants have a tendency to sink into the bone. The pressure-resorption effect is

GINGIVAL HEALTH AND IMPLANT SINKING

TABLE 2

GINGIVA	SINKING	1 0 mm	2 1 mm	3 2 mm	4 3 mm	5 3 mm
1. No inflammation		#3,7,12	#6,17			#16
2. Mild inflammation		#11	#2,10	#4		
3. Moderate inflammation			#5			
4. Severe inflammation				#1,8		#9

Cases #13, 14, 15: radiographic measurements not available.

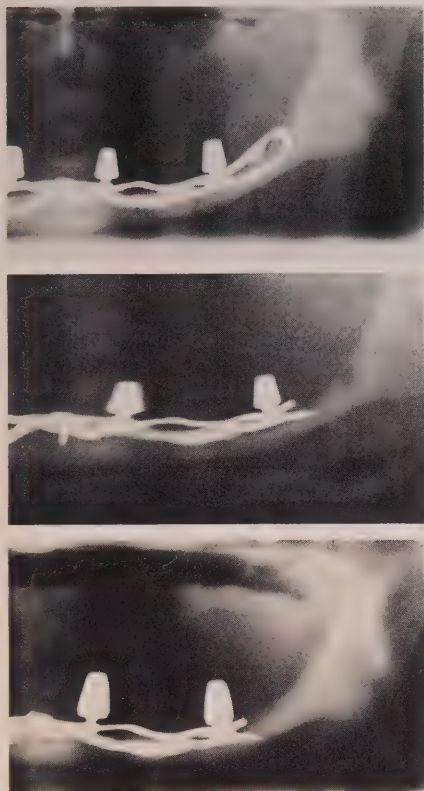


Figure 3 a, b, c: Pressure-resorption phenomenon controlled, and subsequent bone repair.

especially apparent at the posterior end of the implant. Figures 3 a, b, c, show the sequence of bone repair after an attempt was made to salvage an implant (case 1) by sectioning of the posterior end.

It appears that some relationship exists between the severity of implant sinking and the state of the gingival health. The better the health, the less sinking there is. Case #16 stands much apart in this relationship by sinking 4 mm, but still maintaining a good gingival health. Either the gingiva has remarkably adapted itself to this new condition or there is a measurement error due to the misplacement of the head of the patient in the cephalostat.

DISCUSSION

LIFE EXPECTANCY FACTORS OF IMPLANTS

There are many factors that may play for or against the survival of the subperiosteal implant. Some of them, like the time factor or the implant design, have been exposed in the literature. This study will propose newer considerations in the light of recent research on bone resorption under dentures and from the lessons learned from our use of implants in the last six years.

BIOLOGICAL FACTORS

1. Bone density and age

A recent study⁷ with direct photon absorptiometry has shown that the bone density of the radius decreases with age, especially for women. In the same fashion, so does the density of the edentulous mandible. The bone density values taken in five of the 17 implant patients, whose mean age is 55 years, gives the same patterns of decrease with age as those displayed by the general population. Since subperiosteal implants are not recommended below the age of 50 because of their relatively limited life expectancy, this factor of bone density and age is an important one that mitigates against the success of implants.

2. Facial morphology

It has been shown⁸ that cases of extremely severe atrophy of the mandible are more frequently found in patients with a small facial height and a closed bite as determined by the Frankfort mandibular angle (FMA°). The reason may lie in stronger masticatory forces more directly applied to the residual ridges for closed-bite individuals as compared with open-bite patients (Fig. 4). The results of this study seem to support the theory that the facial morphology plays an important role in residual ridge atrophy. The mean FMA° of $19.4^\circ \pm 4.8^\circ$ (Normal: 24°) places this group in the category of closed-bite individuals. Also the mean S.L. value of 452 mm² indicates extremely severe atrophy.

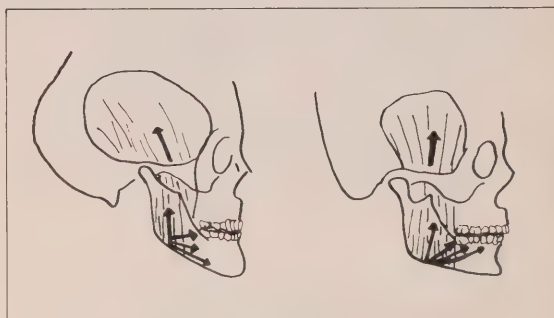


Figure 4: Masticatory forces more compressive for the closed-bite than the open-bite patient.

3. Bite force

It has been shown in another study⁹ that the bite forces generated by implant patients are two to three times stronger than those displayed by ordinary denture wearers.

These three factors: decrease of bone density with age, unfavorable facial morphology for atrophy, and stronger biting forces, may be adversely associated in these instances in the following manner. By selecting subperiosteal implants for older patients with extremely severe atrophy, we may favour the same promotional factors that may

have led to their original condition. Originally, after dental extractions, these patients may have been good candidates for extreme atrophy because of their limited amount of denture-supporting bone and because of their stronger masticatory forces. Now, we perpetuate the same vicious circle, but to a lesser degree.

4. Local anatomical factors: Soft tissues

Two types of soft tissue covering may cause implant failure. Thin mucosa becomes prone to irritation, ulceration, and metal exposure.¹⁰ This weakness can be corrected by grafting the crest of the ridge with palatal mucosa.¹¹ The mentalis, the depressors of the lower lip and the corner of the mouth, are muscles that may interfere with the tissue surrounding the anterior posts in ways similar to those that create periodontal problems. Again, an epithelial graft would be beneficial.

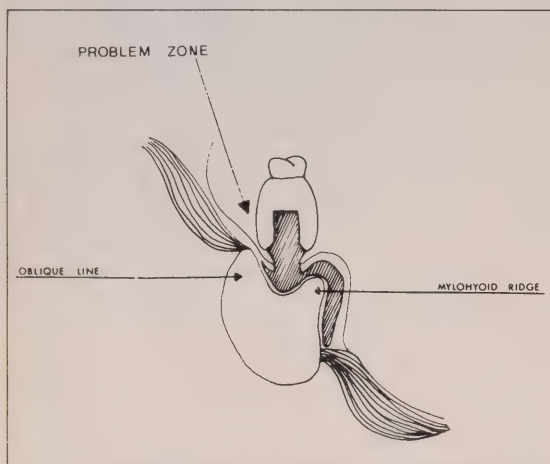


Figure 5: Unfavourable position of posterior post in certain cases of extremely severe atrophy. The buccal soft tissues are entrapped against the external oblique line.

Bone

There is a configuration of bone frequently encountered in extremely severe atrophy of the mandible that may create problems (Fig. 5). The pattern of resorption has progressed in such a way that there exists a trough between the external oblique line and the mylohyoid ridge that forms the present crest. In this situation it is difficult to place the back post as posteriorly as possible without having the buccal flange of the denture impinged upon the soft tissue of the external oblique line. The buccinator in particular will display a tendency to become inflamed in this region.

The shape of the residual ridge also plays an important role. It is preferable to be dealing with a broad, flat mandible that allows distribution of forces over a larger area. A subperiosteal implant should not have been used for two of the three failure cases in this series. Both cases exhibit a narrow, small volume type of mandible.

5. Hygiene and parafunctional habits

It cannot be restated too often: oral hygiene must be meticulously controlled. Some patients develop calculus around the neck of the posts or on the exposed metal frame. For these reasons a rigid system of regular check ups and scaling when necessary, is imperative. It is sometimes hard to convince patients, especially those who do not experience discomfort with their implant, that their natural teeth were not returned to them; they must realize that the implant remains a foreign body. We have seen patients who, despite all warnings about the dangers of the pressure resorption phenomenon, kept their dentures in all night.

TIME FACTOR

In continuity of what has just been said about the implant being a foreign body, Weiskopf¹² divides the evolution of subperiosteal implants into three phases. The first, the phase of adaptation, involves at times some discomfort which may last a few months to a year. Next, the quiet period may settle in for several years, with occasional soreness. Finally, the last phase arrives when the patient has so much discomfort that he requests the removal of the implant. We have not reached this last period with any of our patients, but the time factor may soon catch up. It seems from the present results that more problems have developed with implants of longer duration. The reason may also lie in better selection and treatment of more recent cases.

TECHNICAL FACTORS

1. Surgical

Wound dehiscence immediately after the insertion of the implant has occurred in certain cases. Some wounds have spontaneously closed but others have not, leaving the metal exposed. While metal exposure does not necessarily lead to implant failure, it can nevertheless be prevented by using basic surgical principles. It is important to use relaxing incisions in the periosteum at the base of the enveloping flap. Also, the wound must be closed in layers. Deep sutures to the muscles on each side of the implant reduce wound tension. The mucoperiosteum is closed by a combination of interrupted and horizontal mattress sutures.

2. Prosthetic

Much has been written on the design of subperiosteal implants, especially the superstructure. Very little attention has been directed toward newer concepts of host acceptability and distribution of forces against pressure resorption, as recently noted by Zarb.¹³ It is hoped that present developments in coating materials that permit ingression of the surrounding tissue into the implant will be easily available for oral use.

Too much emphasis has also been placed on the concept

of mucosal perforation in the area around the posts, as if the problem of tissue compatibility stopped at that level. Mack¹⁴ suggested that an investing layer forms around the whole buried part of the implant. The only one that we have removed to date was found in such a fibrous envelope and nowhere was the bone exposed. Upon histologic examination of the surrounding tissue the classic signs of foreign body reaction were absent. The tissue was, however, strongly infiltrated with inflammatory cells.

This discussion is not intended to diminish the importance of paying great attention to the design of the implant in its present form. The post neck must be as thin as possible, consistent with the physical strength of the metal. The flange of the post should not impinge on the surrounding tissue. To ensure proper neck height, the thickness of the tissue should be taken prior to the surgical exposure of the bone. These measures will help to ensure the integrity of the mucosa surrounding the posts. For retention, the lingual border of the implant framework should snap into the sublingual fossa and under the mylohyoid shelf when this is anatomically possible. Screws are not necessary.

THE DEFINITION OF SUCCESS

The conflicting reports of success in subperiosteal implant evaluation can be explained by a matter of definitions. While some studies relate to survival time, others, like the Harvard Consensus, will go beyond this qualification and determine the functional service of an implant. The present study, although limited in the number of cases and the years of observation, sides with the more pessimistic ones. Our present margin of success (60 per cent) with a mean three-year follow-up period will probably improve as we gain more experience in the selection of patients and the application of techniques.

Notwithstanding the results of this study, the concept of subperiosteal implants is a good one if directed toward the right patients. Some clinicians use it as a "one recipe solution" for any patient afflicted with denture problems. When conventional dentures are of no help, there are excellent surgical techniques available. For moderate atrophy, the lowering of the floor of the mouth and extension of the vestibule with split thickness skin graft coverage increase denture stability and retention without the recourse of introducing a foreign body. Recent developments in pedicle sliding bone grafts have greatly improved bone augmentation techniques. They are especially indicated for the young patient afflicted with extremely severe atrophy of the mandible.

For the older patient with the same condition, the subperiosteal implant remains the best approach. The advantages are that it is simple, can be done under local anesthesia, is relatively inexpensive and does not depend upon a complicated armamentarium or the use of the operating room. Most dental laboratories experienced in the casting of partial dentures can be utilized. The superstruc-

ture can be very simply designed in the way of an overdenture but it takes an above-average prosthetic skill.

Satisfaction for the patient and the operator will only be possible if both realize that this structure is not a substitute for natural teeth. It constitutes a form of replacement that demands a lot of post-insertion care. *It leaves very little leeway in providing another solution, if it fails. Therein lies the main problem with subperiosteal implants.*

SUMMARY

A study of 17 subperiosteal implants with a mean observation period of three years was made in the light of the Harvard Consensus evaluation criteria. A 60 per cent rate of success was obtained. Biological, time, and technical factors responsible for success or failure were discussed. Despite some failures, the subperiosteal implant remains an acceptable solution in selected cases of residual ridge atrophy.

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Dr. Djokovic and Dr. Cholewa provide assistance to the clinic.

Traumatic hyperplasia of the gingiva - alveolar fibrosis

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This condition consists essentially of a fibrous replacement of the crestal portion of the bony alveolar ridge and fibrous hyperplasia occurring superficially in the adjacent soft tissues, either singly or in combination, and resulting from the chronic trauma of an ill fitting denture. The gingiva hyperplasia is also known as traumatic gingival hyperplasia, epulis fissuratum, denture injury tumour, redundant tissue and inflammatory fibrous hyperplasia.

Variations on this theme are seen frequently in the general practice of dentistry and advanced cases may sometimes present problems in therapy from both the surgical and prosthetic points of view. Consequently, prevention is the easiest and most effective form of treatment and largely involves the provision and maintenance of a well fitting, non-irritant denture, in which the occlusal load is evenly distributed over the weight-bearing area of the alveolus.¹ The condition, however, is comparatively symptomless and the majority of patients are not aware that any abnormal change has occurred. Consequently, prevention is

mainly dependent upon a high degree of professional awareness of the nature of the problem, and implies a greater degree of education and follow-up of the public after the fitting of a denture (especially the immediate type of denture) than presently appears to exist.^{2,3} This paper is an attempt to focus attention on the problem with this objective in view.

ETIOLOGICAL FACTORS

In the maxilla, the condition is found most commonly in the incisal segment in association with an ill fitting full upper denture. It occurs especially in those instances where the ill fitting denture is exposed to the forceful biting action of natural lower teeth, and particularly where only the lower incisors and cuspids remain. These circumstances occur quite frequently because the mandibular incisors and cuspids have a low caries incidence and, frequently, are the last teeth to be lost. Failure to fit a partial lower denture or, alternatively, failure to reline an existing denture and compensate for ridge resorption in the bilateral free-end saddle situation results in the powerful biting force of the natural dentition being concentrated upon the relatively limited incisor region of the maxillary denture, and indirectly upon the portion of the ridge below it.

The effects are two-fold, and changes occur as a result of excessive pressure being placed on the weight-bearing area in the alveolus, and also pressure and frictional irritation being applied to the mobile adjacent tissues. Bone is a tissue with a significant metabolic turnover which normally maintains a state of equilibrium — continuing resorption being made good by an equivalent redeposition. However, maintenance of this balance appears to require relatively ideal circumstances; adverse conditions, such as the chronic inflammation which is likely to result from the chronic application of trauma to the surface of the alveolar ridge, is often associated with loss of bone and its replacement by the more robust fibrous connective tissue.^{4,5,6} Physically, however, this fibrous replacement is mobile and compressible and gives only reduced support to that portion of the denture which rests upon it.

The effects which are seen clinically depend upon whether the atrophic aspects of the tissue damage predominate and produce ulceration, or whether the reparative phase of the inflammatory process becomes accentuated and results in a reactive hyperplasia of granulation tissue which subsequently matures and becomes fibrotic.⁷ The bulk of hyperplastic tissue may vary, from a small tag up to a mass consisting of multiple folds ("epulides fissurata") which occupies the whole of the sulcus (Fig 1). On

occasion, when the denture is seated, the flange may be seen to fit between two of the "leaves" of this tissue mass.

The basic sequence of events which can develop in the edentulous mandible is roughly similar to that being described as occurring in the maxilla. The lesion does not occur so consistently in the incisor region but fibrous replacement may occur throughout the whole of the ridge, as generalized alveolar resorption causes the denture to become ill fitting.^{8,9} In addition, the area of the mandibular ridge which is available to withstand the load is relatively



Figure 1: Typical multiple folds or "leaves" of hyperplastic, redundant mucosa virtually obliterating the maxillary labial vestibule.

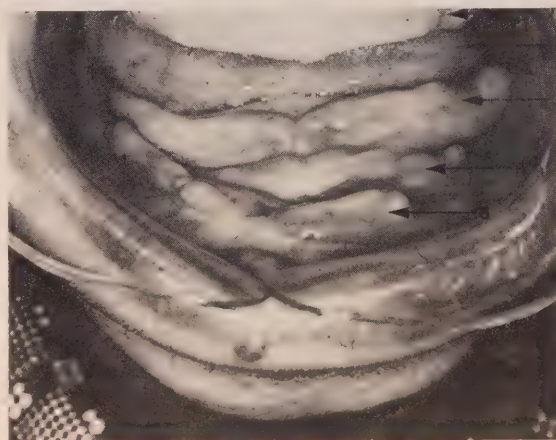


Figure 2: Extreme manifestation of longstanding ill-fitting lower denture — alteration in supporting tissues whereby earlier hyperplastic folds of soft tissue have undergone induced metaplasia to bone and consequent denture support on a new accommodative base. Orientation: (1) edentulous maxillary alveolar ridge, (2) tongue, (3) sublingual fold, (4) residual original alveolar ridge, (5) induced accommodative alveolar ridge.

small when compared with the denture-bearing surface of the maxilla, thus resulting in greater potential pressure and traumatic insult per unit of surface area.

Fibrous replacement of the crest of the mandibular alveolar often results in a "rope ridge" formation, which appears as a flabby, rolled rim of unstable soft tissue forming the crest of the alveolus. Due to loss of alveolar height and tissue support, "sinking" of the denture results in the facial and lingual flanges digging into the mobile mucous membrane, again producing tissue damage at isolated sites around the periphery of the denture. As in the maxilla, these may result in either ulceration or hyperplastic proliferation predominating in the tissue response (Fig 2).

HISTOPATHOLOGY

The tissue which forms the fibrous replacement for the alveolar bone on the crest of the ridge consists of dense collagenous connective tissue, associated with a varying degree of chronic perivascular round cell infiltrate (Fig 3).

The overgrowth in the sulcus area is composed of fibrous connective tissue covered by stratified squamous epithelium. In keeping with its reactive origin, the connective tissue may show a widely varying degree of maturation. For example, in areas where the tissue mass is exposed to continuing irritation, as at the base of the growth close to the periphery of the flange, it often consists of young granulation tissue and may possess a significant infiltrate of chronic inflammatory cells. Corresponding to this, the overlying epithelium in such an area of active irritation is often poorly developed or focally absent, with dense aggregates of chronic or even acute inflammatory cells concentrated around any areas of ulceration or near-ulceration (Fig 4). On the other hand, in areas divorced from direct irritation, the connective tissue may mature and become densely collagenous, with only a minimal perivascular infiltrate of chronic inflammatory cells to remind an observer of its reactive inflammatory origin, while the covering epithelium may be correspondingly well developed or even keratinized.¹⁰

It has been suggested that sites of chronic irritation, such as this represents, may predispose to the development of squamous cell carcinoma. However, clinical investigation has never finally established any significant relationship of this type.

TREATMENT

Fitting of a stable denture subsequently necessitates the provision of a uniformly firm base on the alveolar ridge, along with the removal of any excessive tissue in the sulcular area in order to permit the fabrication of a normal flange and formation of an effective peripheral seal.^{11 12} Surgical removal of abnormal tissue is usually done as a one-stage procedure, although more severe cases may require two stages for optimum results. For example, the vestibular surgery can be done as an initial step, followed

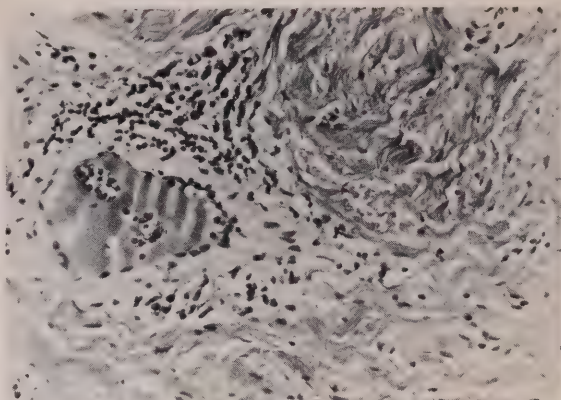


Figure 3: Histology typical of dense collagenous fibrous tissue replacement of alveolar bone with varying degrees of chronic inflammatory infiltrate.



Figure 4: Degenerating epithelium in near-ulceration zone showing hydropic changes and clefting between it and underlying connective tissue associated with fairly localized subepithelial chronic inflammatory infiltrate.

in three or four weeks by the alveolar ridge surgery. Staging procedures of this type are also helpful in the more extensive cases because they allow interim evaluation of healing to be carried out. If tissue advancement has been undertaken to close the initial wound, or if scarring and contracture have developed in the operated area, this can result in marked alteration of the surface contour from what one would have expected to result from the initial operation.

The surgery itself is not technically difficult¹³ but is frequently quite bloody, as one is incising into a chronically inflamed and highly vascular soft tissue. It is for this reason that removing the irritating appliance a few days or weeks prior to surgery is helpful in reducing the elements of acute inflammation thereby lessening the bleeding at operation. Where such withholding of the denture is impractical or resisted by the patient, placement of a soft tissue conditioner may serve the same purpose although it is not as effective a measure. Where the lesion mainly involves fibrous replacement of the alveolar ridge, an ellipti-

cal wedge-incision is made around the redundant tissue, followed by undermining and thinning of the adjacent labial and palatal mucosa to permit subsequent closure of the wound (Fig 5). Further elevation of labial and palatal mucoperiosteal flaps is usually necessary in order to give adequate surgical access to the affected region. Frequently, this reveals that the fibrotic replacement overgrowth surmounts a sharp, knife-edged crest of bony ridge. Removal of the abnormal fibrous tissue must be followed by reduction and smoothing of the underlying bony crest with rongeur and bone file.¹⁴ This is necessary in order to produce a contour which facilitates the even distribution of pressure from the denture over the whole of the weight-bearing area. The mucoperiosteal flaps are then coapted and trimmed to ensure that there is no redundant tissue, and final closure is achieved, preferably with continuous locked suturing.

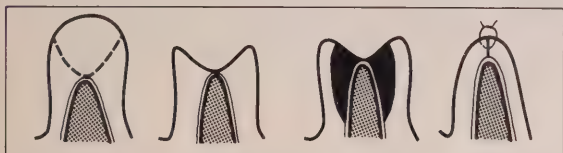


Figure 5: Cross-section of mandibular alveolar ridge showing elliptical incision at crest with excision of the redundant mucosa, submucosal wedge excisions and final closure with suture.

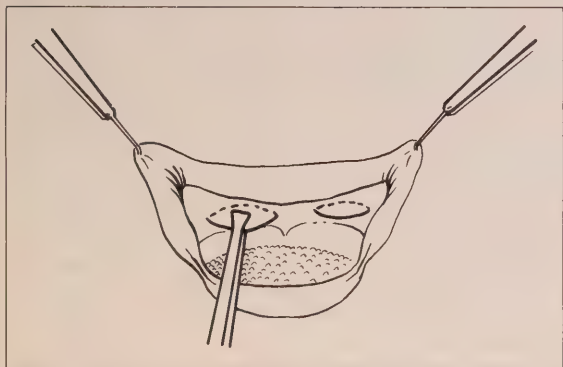


Figure 6: Schematic drawing illustrating bilateral folds of redundant mucosa in maxillary labial vestibule with Allis forceps grasping one of the folds in preparation for excision.

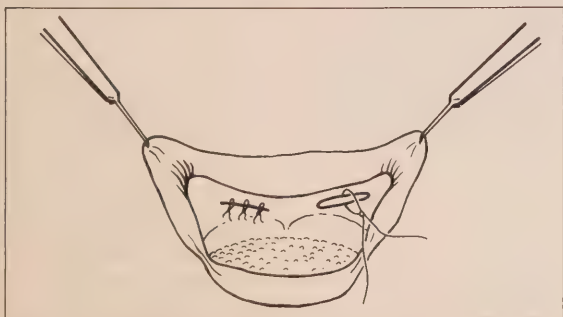


Figure 7: Same illustration as Figure 6, showing area with folds excised, adjacent mucosa undermined, advanced and closed with sutures.

In those cases where the main overgrowth of tissue has occurred in the vestibule, excision of the folds is carried out, along with sufficient undermining of the adjacent mucosa to permit advancement for closure by means of interrupted sutures without tension (Figs 6 and 7). In this regard it should be born in mind that adaptation of a denture flange periphery to a scarred sulcular flexure is not a desirable prosthetic principle. So any preprosthetic surgery technique should be so designed as to result in the inevitable linear scar being offset from this specific site.

Few patients are prepared to go without their dentures postoperatively. However, since their old dentures have been the main etiology of the condition, it is essential that the surgeon removes any cause of continuing irritation from this source. If the old denture flange is over-extended in relation to the immediate postoperative sulcus depth, this should be reduced appropriately. Adaptation of the denture base to the new shape of the alveolar ridge is achieved by placing a temporary liner in the old denture so that this is no longer a source of significant trauma. In addition, it allows the denture to serve as a splint in controlling postoperative swelling or bleeding. One of the several commercially available tissue conditioners may serve this purpose admirably and is less messy than the zinc oxide type of preparation. Furthermore, its initial set is soft, so that it is kind to the freshly surgerized tissues. With time, however, this material hardens and should be replaced or adjusted regularly if it is to be worn as a temporary appliance for more than two or three weeks.

Edema, discomfort and ecchymoses may develop postoperatively in varying degrees, but are rarely a severe problem. The patient is instructed to leave the lined denture in place for the first 24 hours, followed by the usual postoperative care in removal, cleaning and oral rinsing after meals and at bedtime. Sutures are removed after one week, at which time there is usually considerable inflammation still present in the operated tissues. Consequently, the lining is renewed at this visit, while the patient is instructed to continue home care procedures. In most cases, the patient is ready for appropriate prosthetic care two to three weeks later (three to four weeks postoperatively). By this time the tissue has usually firmed up fairly well and is pink in colour; if not, the dentist should delay fabrication of the new denture until he is satisfied with the appearance and consistency of the ridge mucosa.

Finally, it is essential to remind the patient that recurrence of those factors which precipitated and perpetuated the condition must be guarded against after the operative correction, otherwise the situation is likely to recur. He should be advised to return at annual intervals for continuing prosthetic evaluation and to have any necessary remodelling and relining of the denture performed in order to keep good occlusal balance and to prevent sinking and irritation from the denture flanges.¹ It will be evident to the experienced dentist that the described surgical procedure

will inevitably result in reduced vertical height and substance to the alveolar ridge, a distinct disadvantage to successful full denture prosthetics. Where this reduction is excessive, it may be necessary to augment this rather simplistic technique with more sophisticated procedures now available to the profession. These include sulcus deepening and ridge augmentation operations, some of which are quite ingenious but beyond the scope of this paper.

DISCUSSION

The most disturbing element in the clinical presentation of this condition is the fact that many patients claim that they were never told by their dentists when they first received their initial denture that they would need to be re-examined and checked on a regular basis in order to prevent a complication of this kind. If this is so, then this condition must be regarded as an iatrogenic lesion which has developed by the fault of omission, just as surely as any fault of commission.

Even acknowledging potential lapse of memory on the part of the patient, the fact remains that many dentists run an efficient recall service for their dentulous patients, while completely ignoring any responsibility for the edentulous ones. Prevention of disease in the edentulous mouth must include a sufficiently high degree of initial stress upon the need for regular follow-up visits, or even the establishment of an annual prosthetic recall list. This is especially important when an "immediate" type of denture is inserted, or in patients with natural lower incisors and a bilateral free-end saddle partial denture. Explaining the physiology of bone resorption in layman's terms, and the possible chronic denture irritation which may result from loosening and settling as a result of this, is time well spent. Printed pamphlets such as "Your New Dentures" published by the Canadian Dental Association, can explain essential points and enable the patient to read and refresh his memory at a subsequent date.

In reviewing the literature for this paper it was fortuitous perhaps but nevertheless illuminating that the following words were published in the *Journal of the American Dental Association* 50 years ago by an author who obviously felt the same compelling message should be emphasized. Wright,⁷ in a presentation before the Section on Full Dentures at the Midwinter Clinic of the Chicago Dental Society, January 15, 1929, in a general discussion of alveolar mucosal hyperplasia, fibrosis, and resorption problems beneath full dentures said: "These data seem to be an indictment against dentures, and yet the dentist cannot correct the conditions unless his patients return to avail themselves of his services. Is the patient not responsible for his own negligence, especially after he has been warned concerning the effects of resorption?"

Later Wright renders this admonition: "Balanced occlusion must be maintained throughout the life of dentures. We must impress on our patients the importance of fre-

quent visits for examination, adjustments and correction of restorations. Patients must not be dismissed with the belief that their dentures will last the rest of their lives."

Reflecting upon these words, one can only conclude that the profession has made little progress towards a solution to this problem if the flood of "denture pathology" which comes before us now is truly an indication of its current dimension.

SUMMARY

The pathological condition of traumatic hyperplasia of the gingiva and fibrous replacement of the alveolar ridge has been described, and surgical and adjunctive treatment have been discussed. A plea is made for the profession to fulfill its responsibility by advising and supervising patients in respect to the various implications of long term denture wearing, and especially those associated with provision of immediate dentures. Failure to do so may contribute to the development of ravaged alveolar ridges, prosthetic cripples, and over-worked surgeons.

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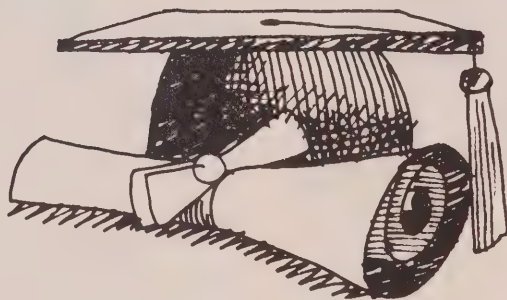
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Announcements

CANADA

Canadian Dental Association, 1981 National Convention, Calgary, Alberta, August 30-September 2, 1981. Contact: Dr. R.H. Headley, 811 Elbow Drive S.W., Calgary, Alta. T2V 1K3.

March/mars

Western Canada Dental Society Curling Bonspiel, Vancouver, British Columbia, March 12-14, 1981. Contact: Dr. E.T. Duke, 206-10340-134A Street, Surrey, B.C. V3T 4B8, for further information.

April/avril

Canada's 37th Annual National Health Week, April 5-11, 1981. These dates have been chosen to include World Health Day, April 7th, with its theme: "Health For All By The Year 2000". Sponsored by The Health League of Canada, 76 Avenue Road, Toronto, Ont. M5R 2H1.

Journées Dentaires du Québec, Queen Elizabeth Hotel, Montreal, Quebec, April 26-30, 1981. Contact: Dr. Morton R. Lang, Journées Dentaires du Québec, 801 Sherbrooke Street East, Suite 303, Montreal, Que. H2L 1K7. Tel: (514) 481-0397.

May/mai

Ontario Dental Association 114th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 24-27, 1981. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ont. M5R 2P1.

June/juin

Fourth Canadian Congress of Dentistry for Children, Harbour Castle Hotel, Toronto, Ontario, June 5-7, 1981. Contact: Dr. Keith Titley, 48 Cleveland Street, Toronto, Ont. M4S 2W2.

Yukon Dental Association's 1981 Convention, Atlin, British Columbia, June 26-28,

1981. Contact: Dr. John Stern, 309 Wood Street, Whitehorse, Yukon, Y1A 2E7.

Atlantic Provinces Dental Convention, Moncton, New Brunswick, June 30/July 1, 1981. Contact: Dr. R. Legere, 335 Mountain Road, Moncton, N.B. E1C 2M4.

July/juillet

Western Canada Dental Society Convention, Winnipeg Inn, Winnipeg, Manitoba, July 1-4, 1981. Contact: Dr. Ted Derrett, Chairman, 1981 W.C.D.S. Convention, 300-296 Kennedy Street, Winnipeg, Man. R3B 2M6.

August/août

Canadian Academy of Prosthodontics Annual Meeting, Calgary, Alberta, August 28-29, 1981. Contact: Dr. B.M. Jackson, 22-22 Water Street S., Kitchener, Ont. N2G 4K4.

INTERNATIONAL

January/janvier

First International Symposium on Restorative Dentistry in Memory of Raymond Leibovitch, Jerusalem, Israel, January 4-5, 1981. Contact: Dr. R.S. Klugman, Hadassah School of Dental Medicine, P.O.B. 1172, Jerusalem, Israel or Dr. C. Knellesen, 3 Boulevard Delescent, Paris 75016, France.

Pacific Dental Conference sponsored by the Pacific Dental Federation and the Hawaii Dental Association, Sheraton-Waikiki Hotel, Honolulu, Hawaii, January 11-16, 1981. Contact: Pacific Dental Federation & Hawaii Dental Association, 1000 Bishop Street, Suite 805, Honolulu, Hawaii 96813.

American Association of Orthodontists Foundation, National Continuing Education Conference on Temporomandibular Joint, Dallas, Texas, January 30-31, 1981. Contact: American Association of Orthodontists, 460 North Lindbergh Boulevard, St. Louis, Missouri 63141, U.S.A.

The East Coast District Dental Society XI Annual Winter Meeting, Fontainebleau Hilton Hotel, Miami Beach, Florida, January 30-February 1, 1981. Contact: East Coast District Dental Society, 420 South Dixie Highway, Suite 2E, Coral Gables, FL 33146, U.S.A.

February/février

The XIII European Dental Continuing Education Congress, Germany, February 22-March 7, 1981. Contact: Ulrich Born, Freir Verband Deutscher, Zahnärzte e.V., Rheinallee 55, 5300 Bonn-Bad Godesberg, Germany.

West German Dental Association Congress, Davos, Switzerland, February 22-March 7, 1981. Contact: Manfred Gilles, Rheinallee 55, 5300 Bonn 2, West Germany.

March/mars

The British Council, Course on Advanced Paedodontics, University of London & University of Newcastle, England, March 8-20, 1981. Contact: The Representative, The British Council, British High Commission, 80 Elgin Street, Ottawa, Ont. K1P 5K7.

The American Public Health Association's theme for the 109th Annual Meeting is "Energy, Health and the Environment". The Dental Health Section is inviting submission of abstracts of papers to be presented at the meeting in Los Angeles, California, November 1-5, 1981. The deadline is March 13, 1981. For information and abstract forms contact: Dr. D.I. Rosenstein, 611 SW Campus Drive, Portland OR, 97201, U.S.A.

10th Asian Pacific Dental Congress, Hyatt Convention Centre, Singapore, March 26-31, 1981. Contact: The Secretary-General, 10th Asian Pacific Dental Congress, c/o Singapore Dental Association, 4A College Road, Singapore 0316.

April/avril

International Symposium co-sponsored by the Tel Aviv University School of Dental Medicine and Alpha Omega International Fraternity-Toronto Chapter, Tel Aviv University Campus, April 29-30,

Announcements

1981 and continuation May 11-12, 1981. Contact: Dr. H.J. Levin, 2006 Bathurst Street, Toronto, Ont. M5P 3L1 or Dr. H. Judes, School of Dental Medicine, Tel Aviv University, Ramat Aviv, Israel.

May/mai

4th International Congress on Cleft Palate and Related Craniofacial Anomalies, Acapulco, Mexico, May 3-8, 1981. Deadline for scientific contributions and advance registration at reduced fees is August 31, 1980. Contact: General Secretariat, 4th International Congress on Cleft Palate, Apdo, Postal 18-986, Mexico 18, D.F. — Mexico.

Alabama Implant Congress VII, Birmingham, Alabama, May 7-10, 1981. Contact: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Ala. 35206, U.S.A.

The American Academy of Implant Dentistry's 29th Annual Active Membership Examination, 211 East Chicago Avenue, A.D.A. Headquarters Building, Chicago, Illinois, U.S.A., May 15-16, 1981. Contact: A.A.I.A., 515 Washington Street, Abington, Massachusetts 02351, U.S.A.

International Congress on Combined Orthodontic and Surgical Treatment of Maxillofacial Deformities, The Hague, The Netherlands, May 18-20, 1981. Contact: W. Van Herk, Stoeplan 20 Wasse-naar, The Netherlands.

The VI Belgian Congress for Dentistry, Ostend, Belgium, May 27-30, 1981. Contact: Organizing Committee, Maison des Dentistes, 165 Avenue de Jette, 1090 Brussels, Belgium.

June/juin

The First General Scientific Meeting of the International Association of Oral Pathologists in association with the Scandinavian Society of Oral Pathology and Oral Medicine, Gothenburg, Sweden, June 1-4, 1981. Contact: Dr. Guy Heyden, P.O. Box 33070, S-400, Gothenburg, Sweden.

4th European Congress of the European Federation for the Advancement of Anaesthesia in Dentistry, Lugano Congress Center, Lugano, Switzerland, June

18-20, 1981. Contact: Dr. Rene Charbon, Via Canova 18, 6900 Lugano, Switzerland.

American Dental Society of Europe Annual Meeting, Loews Hotel, Monte Carlo, Monaco, June 23-26, 1981. Contact: Hon. Secretary, Dr. Brian J. Parkins, 57 Portland Place, London W1N 3AH, England.

July/juillet

The VI Congress of the International Association of Dentistry for the Handicapped, Davos Switzerland, July 22-25, 1981. Contact: R.K. Hall, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052, Australia.

September/septembre

International Conference on Mercury Hazards in Dental Practice, Glasgow, Scotland, September 2-4, 1981. Contact: Prof. J.M.A. Lenihan, West of Scotland Health Boards, Dept. of Clinical Physics & Bio-Engineering, 11 West Graham Street, Glasgow G4 9FL, Scotland.

Third World Congress on Pain (Sponsored by the International Association for the Study of Pain), Edinburgh, Scotland, September 4-11, 1981. Contact: Third World Congress on Pain, University of Edinburgh Centre for Industrial Consultancy and Liaison, 16 George Square, Edinburgh, EH8 9LD, Scotland, U.K. or Louisa E. Jones, BS. Executive Secretary, International Association for the study of Pain, Dept. of Anesthesiology RN-10, University of Washington, Seattle, WA 98195, U.S.A.

Fédération Dentaire Internationale, 69th Annual World Dental Congress, Rio de Janeiro, Brazil, September 4-10, 1981.

International Congress on Biomaterials in Stomatology, Pretoria, South Africa, September 18-20, 1981. Contact: Congress Secretary, Faculty of Dentistry, P.O. Box, 1266, Pretoria, Republic of South Africa 0001.

November/novembre

Seventh Convocation of Royal Australia-

lasian College of Dental Surgeons, Sydney, Australia, November 9-12, 1981. Contact: Hon. Secretary, Royal Australasian College of Dental Surgeons, Inc., 229 Macquarie Street, Sydney, NSW 2000, Australia.

Swedental Dental Congress and Trade Fair, Stockholm, Sweden, November 18-21, 1981. Contact: A.C. Nackstad, Svenska Tandlakare-Sallskapet, Nybrogatan 53, 11440 Stockholm, Sweden.

The XVI International Congress of the Mexican Dental Association, city of Mexico, November 19-22, 1981. Contact: Dr. Luis Quiroz, Secretary General, XVI International Congress of the ADM, Cerrada de Popocatepetl 51-A, Mexico 13, D.F., Mexico.

1982

Australian Dental Association, 23rd Dental Congress, Perth, Australia, May 2-7, 1982. Contact: Australian Dental Association, 23rd Dental Congress, P.O. Box 29, Parkville, Victoria, Australia, 3052.

The Dental Association of South Africa, Diamond Jubilee Congress, Durban, South Africa, May 10-14, 1982. Contact: Dr. Helmut Heydt, Executive Secretary, Dental Association of South Africa, Private Bay One, Houghton, 2041, South Africa.

The 88th Annual Meeting of the American Dental Society of Europe, Park Hotel, Sandefjord, Norway, June 28-July 2, 1982. Contact: Hon. Sec. Dr. Brian J. Parkins, 57 Portland Place, London W1N 3AH, England.

Fédération Dentaire Internationale, 70th Annual World Dental Congress, Vienna, Austria, October 11-16, 1982.

Fédération Dentaire Internationale, 71st Annual World Dental Congress, Tokyo, Japan, October 1983.

Fédération Dentaire Internationale, 72nd Annual World Dental Congress, Helsinki, Finland, August-September, 1984.

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Marketplace

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ONTARIO — Toronto. Full time associate required for busy, well established general dentistry group practice. Start immediately. Please reply to CDA Box Number 2029.

NEWFOUNDLAND — Associate wanted in Canada's new oil patch. Dentist wanted for busy full time practice in central St. John's, Newfoundland. Associate will have exclusive use of fully equipped operatories and share use of orthopantomograph. Hygienist also in practice. Those interested please write: Dr. Robert Quigley, 257 LeMarchant Road, St. John's, Nfld. Phone: (709) 579-2115 or 726-6247.

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QUÉBEC — Montréal. Dentiste demandé (e) pour travailler à temps partiel où temps plein, bureau moderne situé au centre d'achat Place Versailles. Pour information contacter: L. Doucet, 5125 du Trianon, suite 550. Tél: (514) 351-4489.

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Miscellaneous

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Policy Statement on Controlled Water Fluoridation

The Canadian Dental Association (CDA), recognizing its commitment to a renewed fluoridation initiative in North America and acknowledging its responsibility of leadership to the dental profession in Canada, strongly reaffirms its position on fluoridation of public water supplies.

Tooth decay which affects the vast majority of Canadians is one of the major health problems of our time. The prevalence of tooth decay is strikingly low in areas where the concentration of fluoride in the water supply is at, or close to the optimal level. Nearly all drinking waters have some fluoride naturally present, but most are deficient. Controlled water fluoridation adjusts the concentration of fluoride in water supplies to the optimum level for the prevention of tooth decay.

Since controlled water fluoridation was initiated in North America in 1944, millions of people throughout the world have benefited from this proven public health measure. Exhaustive scientific research and the experience of people throughout the world reveal fluoridation to be an efficient, safe and inexpensive public health procedure. There are no alternative methods of equal effectiveness.

The Association therefore recommends that, where possible, the fluoride content of community water supplies be adjusted to the optimal level for the maximum prevention of dental decay. Where community fluoridation is not possible, school water fluoridation and individualized methods of supplying fluoride for the protection of dental health be considered.

A major goal of the CDA is to increase the profession's awareness and knowledge concerning water fluoridation. Education of the public is a priority that must be addressed by all members. Experience has shown that legislators and city council members can be responsibly informed about the issues. The trust generated by the dentist-patient relationship can and should be used to promote fluoridation. Generally, success is not attainable unless a sincere commitment is made by the profession. Private practitioners must become committed and involved, preferably before the controversy begins.

To this end the Canadian Dental Association has commissioned a comprehensive report on fluoridation. The first section of this report by D. Christopher Clark, DDS, MPH Assistant Professor, Department of Community Dentistry, Faculty of Dentistry, McGill University entitled "Water Fluoridation in Canada; A Status Report 1980," follows immediately in this edition of the Journal.

The second and concluding report entitled "Responses to Allegations Against Water Fluoridation" by Dr. Clark and W. Paul Lang, DDS, MPH Consultant, Dental Division, Detroit Health Department, Detroit Michigan will appear in the March edition of the Journal of the Canadian Dental Association.

Water Fluoridation in Canada:

A Status Report 1980

The Canadian Dental Association

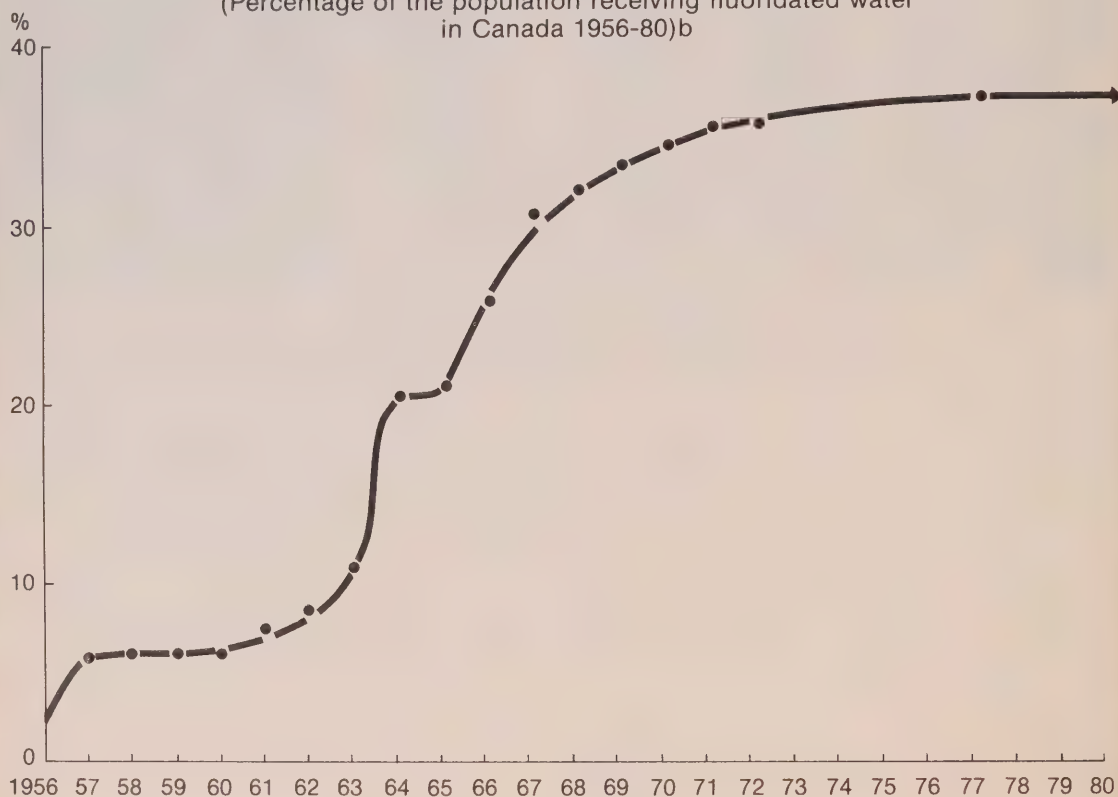
On June 20, 1945, Brantford, Ontario became one of the first cities in the world to undertake the mechanical adjustment of the fluoride content of its water supply.¹ Today, approximately nine million Canadians, or nearly 37 per cent of the population, receive the benefits of this proven public health measure, either from adjusted or

naturally fluoridated water supplies.¹⁴ The growth of fluoridation, however, has been a turbulent process and it remains one of the most controversial measures in the history of public health, despite the fact that fluoridation has received more universal scientific support than practically any other public health measure.¹⁶ Paradoxically,

FIGURE I

GROWTH OF WATER FLUORIDATION

(Percentage of the population receiving fluoridated water in Canada 1956-80)^b



a. Toronto's water supply was fluoridated.

b. Data from 1956-77 from Fluoridation in Canada, 1956-72 and December 31, 1976.

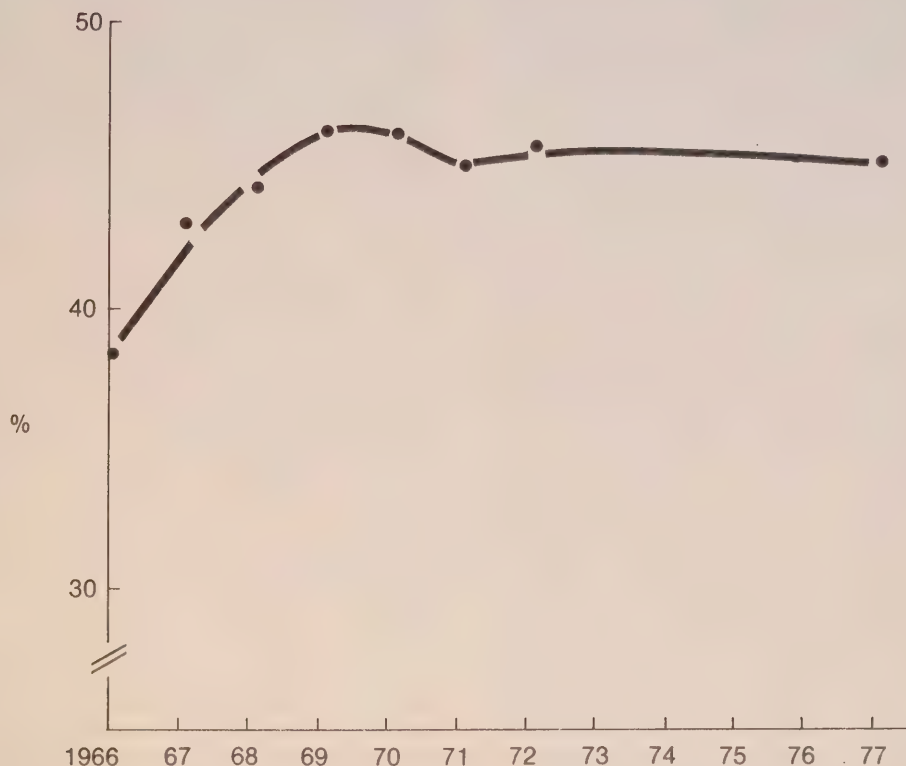
public opinion polls from 1959 to 1977 in the United States reveal that only 10-15 per cent of the respondents are against fluoridation, while a majority of those surveyed were in favour of the measure (51 to 70 per cent) — the balance consisted of persons who either had no opinion or needed more information to make a decision.¹⁷⁻²⁰ In recent

years, Canadian sentiment concerning water fluoridation has not been assessed. This paucity of information is unfortunate and compels one to examine existing data from the United States. Moreover, it might be assumed, given the similarities of the two populations, that the attitudes of Canadians concerning this issue may not differ significant-

FIGURE II

GROWTH OF WATER FLUORIDATION

(Percentage of the population on potable water systems receiving fluoridated water in Canada 1966-77)



a. Fluoridation in Canada, 1966-72, December 31, 1976, 1980 data not available.

Table I Number of Communities with Controlled Fluoridation in Canada 1962 — 1980						
Province or Territory	Communities Supplied					
	1962*	1965*	1968*	1973*	1977*	1980
Newfoundland	0	3	1	3	5	4
Prince Edward Island	0	0	0	2	2	2
Nova Scotia**	4	6	16	22	26	26
New Brunswick	0	0	0	9	6	6
Quebec	19	34	49	98	71	78
Ontario	11	31	72	116	116	114
Manitoba	8	15	34	38	44	44
Saskatchewan	28	68	97	120	101	72
Alberta	5	19	25	41	52	50
British Columbia	9	11	13	25	30	30
Yukon Territory**	1	1	2	1	1	1
Northwest Territory	2	5	6	6	6	5
Canada	87	193	315	481	460	432

* From Fluoridation Status Reports, 1962-77.

**1980 data unavailable, figures based on 1977 figures from Fluoridation in Canada, as of December 31, 1976, using 1980 populations projections.

ly from those of Americans. Why then is fluoridation such a controversial issue? Why, after nearly 35 years of fluoridation in Canada, is fluoridated water not reaching more people in Canada? This report will attempt to address these questions while assessing the current status of fluoridation in Canada. In addition, plans for a national fluoridation initiative by the Canadian Dental Association will be forthcoming.

CURRENT STATUS OF WATER FLUORIDATION IN CANADA

To determine if any changes in the status of water fluoridation had occurred in Canada since 1976,¹⁴ authorities from various provincial agencies or ministries, either dental, environmental or water supply, were surveyed. This survey was also used to ascertain recent changes in provincial legislation concerning fluoridation initiatives. While fluoridation in Canada made great strides during the two decades following 1945, progress since the late sixties has been disappointing, as evidenced by Figures I and II. The rate of growth of fluoridation essentially plateaued in the 1970's and currently only 37 per cent of the population is receiving fluoridated water (Figure I). An identical trend is revealed in Figure II which reflects the percentage of the population on potable water systems and receiving fluoridated water — currently 46 per cent. Both

TABLE II
CONTROLLED FLUORIDATION IN CANADA BY PROVINCES
1962 - 1980

Province or Territory	Population Served					
	1962*	1965*	1968*	1973*	1977*	1980**
Newfoundland	0	12,500	7,108	37,748	49,735	44,253
Prince Edward Island	0	0	0	20,843	20,843	22,073
Nova Scotia+	169,500	208,700	270,625	288,811	332,155	348,763
New Brunswick	0	0	0	79,000	82,623	88,159
Quebec	166,400	295,500	519,763	719,784	753,628	1,101,750
Ontario	354,300	2,546,700	3,766,731	4,633,577	5,063,219	5,142,558
Manitoba	531,100	555,600	585,406	647,538	665,688	688,321
Saskatchewan	214,700	269,300	299,108	335,479	330,630	301,199
Alberta	33,100	72,400	476,937	580,703	767,481	765,515
British Columbia	56,300	76,100	120,400	206,536	287,099	324,135
Yukon Territory+	4,900	5,100	4,620	9,500	11,600	13,781
Northwest Territory	5,000	8,200	12,992	15,959	18,472	19,280
Canada	1,535,300	4,050,100	6,063,690	7,575,478	8,383,373	8,859,787

* From Fluoridation Status Reports, 1962-77.

**Population projections based on percentage change of population 1971-76, Canadian Year Book, 1978-79. Minister of Industry, Trade and Commerce, 1978.

+ 1980 data unavailable, figures based on 1977 figures from Fluoridation in Canada, as of December 31, 1976, using 1980 population projections.

of these parameters identify a definite trend, one which is far more alarming when the data in Table I is scrutinized. The number of communities receiving the benefits of controlled water fluoridation is decreasing. Any progress occurring since 1977 can essentially be accounted for by the fluoridation of the water supply in Quebec City, Quebec in December, 1978. Besides this major accomplishment, there has been no real growth of water fluoridation in Canada. Table II displays the number of persons receiving controlled water fluoridation in each province. Population increases in previously fluoridated areas account for most of the progress since 1973 — Quebec being the only significant exception. Montreal, Vancouver and Calgary remain unfluoridated along with eight other metropolitan areas of Canada. It is evident from Table III that success in fluoridating the highly populated areas of Canada has not been significant since the late sixties. In the United States as well, as the Comptroller General of the U.S. General Accounting office recognized in 1979, the rate of increase of water fluoridation in the U.S. was unacceptably slow. During the seventies, only 17 million additional persons received the benefits of fluoridated water — reflective of a five per cent increase only in those already utilizing public water supplies.¹⁵ In Table IV, data is presented which summarizes the current status of fluoridation in each province and as expected, indicates little change since the last report was published in December, 1976.¹⁴

What, then, is causing this trend? Why have public and provincial officials failed to mandate water fluoridation and why does fluoridation frequently lose in local plebiscites? Numerous reasons exist which partially explain these apparent trends, but very little evidence demonstrates how these factors interrelate. Hence, the complexity of the issue becomes increasingly apparent as one studies the failure of fluoridation initiatives.

Several of the explanations for these failures are worthy of discussion:

- a consumers' movement has created increased public awareness regarding the fallibilities of government, business and science, evidenced by the outcome of the Swine Flu immunization program in the States, the Watergate incident, the Three Mile Island disaster and the Mississauga accident;
- a desire to return to nature and increased interest in organic health food are currently in vogue. More individuals are seeking alternative approaches to health care, health habits and nutrition. Opposition to fluoridation has traditionally accompanied these trends;
- increased concern for environmental issues has sensitized people and focussed attention on food additives and pollutants of air, water or land;
- a cancer phobia seems to exist: The Food and Drug Administration in the United States has banned certain substances as suspected carcinogens on the basis of

controversial animal studies. Other food additives and medicines are being closely scrutinized in tumorigenicity studies. These accusations continually undermine public trust and confidence vis-à-vis scientific issues such as fluoridation;

- freedom of choice, a rallying cry being heard across North America, demonstrates the desire of people to retain some form of control over their own lives. This issue, often used in campaigns against fluoridation in Canada and the U.S., continually generates opposition to fluoridation;
- hesitancy of elected officials to act on fluoridation issues, both at the local and provincial levels, has created an epidemic of indecision. Consequently, one local city council after another is relegating its responsibility to the electorate. Unfortunately, these decisions set precedents, generating similar actions by surrounding municipalities. Provincial legislators also seem to resist attempts from the health professions to modify or change existing legislation;
- current provincial legislation, except the law in Quebec, has done little to promote water fluoridation. In Alberta, where a plebiscite is required to fluoridate and in British Columbia where 60 per cent of the voters must favour the issue, the situations are critical. These laws must change. In Quebec, where the statute mandating fluoridation has been blocked by the opposition, work at the provincial level must continue despite the commendable efforts of the past. Legislation mandating fluoridation at the provincial level can also be achieved elsewhere in Canada with proper approach;
- there apparently is a shadow of complacency within the health professions concerning water fluoridation. Although the issue has the unquestionable endorsement of virtually every major health organization and society in Canada, both financial backing and active support are frequently lacking. Most health professionals during the late sixties probably assumed that fluoridation would become nearly universal in the seventies. However, few could estimate the zealous activity and subsequent effectiveness of opponents of water fluoridation;
- under the guidance of the National Health Federation (an organization opposed to water fluoridation in the United States), the Consumer Health Organization of Canada and numerous local anti-fluoridation groups have instigated a crusade against fluoridation which is continually gaining support. These organizations are well funded, highly organized and well directed, and as a result, have brought a putative legitimacy to the opposition of fluoridation;
- in the United States, the Federal government has recently re-established a central force within the Center for Disease Control, United States Public Health Service, to promote and direct fluoridation efforts. It is equally important for the Department of Health and Welfare of Canada to re-evaluate its efforts and become aggressively involved in efforts to promote fluoridation in Canada.

SUMMARY OF PROVINCIAL LEGISLATION CONCERNING FLUORIDATION

The dental public health authorities of the provincial governments were also questioned about the current status of fluoridation legislation in each province. This information is summarized below:

- In Newfoundland, local option is permitted for fluoridation initiatives except in St. John's where a plebiscite is required. Additionally, a subsidy is available to offset the cost of installation and maintenance of fluoridation equipment for local communities wishing to fluoridate their water supplies.
- Prince Edward Island allows local option for fluoridation proposals; however, special legislation forced a plebiscite in Charlottetown. No subsidy for equipment or maintenance of fluoridation systems exists at the present in PEI.
- Nova Scotia has passed legislation authorizing town councils to implement fluoridation. However, the plan for the water system must be approved by the Department of Public Works prior to installation. The Department also offers financial assistance towards the costs of equipment and installation.
- In New Brunswick, local option on fluoridation proposals is also permitted. Due to an apparent lack of interest, however, the subsidy once offered by the Department of Health to offset the cost of equipment was recently rescinded.
- In June, 1975 the Province of Quebec adopted legislation mandating water fluoridation. This legislation set a deadline for adherence at the end of 1978. Since the law was enacted, however, strong opposition from several different sectors has voiced its objection. Mr. Jean Drapeau, Mayor of Montreal and officials from The Ministry of the Environment, Province of Quebec have both been active opponents. The recent *Quebec Report* to the Ministry of the Environment has received extensive coverage from the media and once again created visibility for opponents. In spite of these circumstances, a subsidy remains available from the Ministry of Social Affairs to cover costs of equipment and installation. Additionally, an administrative plan to monitor fluoridation was enacted in April of 1977.
- Ontario has legislation which gives municipalities the option of adopting fluoridation either administratively or via referendum. However, a petition of only 10 per cent of the voters can force a plebiscite. Moreover, this petition can force a referendum anytime after a successful initiative because no grace period is specified in the legislation.
- Municipalities in Manitoba have local option concerning fluoridation proposals. After adoption of a municipal by-law and receipt of granting authority from the Minister of Health, municipalities are eligible for grants of 100 per cent of the cost of purchase and installation of necessary fluoridation equipment.

- Saskatchewan has enacted legislation authorizing municipal councils to implement water fluoridation in accordance with the provisions prescribed by the Minister of The Environment. Apparently no financial assistance programs exist in Saskatchewan for fluoridation systems.
- In Alberta, a plebiscite is mandatory before a municipal council can order fluoridation. After failure of an initiative, it cannot be proposed again for at least two years. However, there is no specified deadline for implementation of fluoridation once a successful plebiscite has occurred. This point is mentioned because Raymond, Alberta, in the Fall of 1980, may hold a second plebiscite on the issue. A previous referendum was successful nearly two years ago, yet fluoridation has not occurred during the interim period. Communities can, upon approval, receive up to 50 per cent of the cost of purchase and installation of necessary equipment from the Department of the Environment if a muni-

Metropolitan Area	Population 1976 Census	Fluoridated?	Date
Toronto	2,803,101	Yes	Sept. 1963
Montreal —	2,802,485	No	—
Laval		Yes	June 1958
Vancouver	1,166,348	No	—
Ottawa —	693,288	Yes	Nov. 1965
Hull		No	—
Winnipeg	578,217	Yes	Dec. 1956
Edmonton	554,228	Yes	Dec. 1967
Quebec	542,158	Yes	Nov. 1978
Hamilton	529,371	Yes	Oct. 1967
Calgary	469,917	No	—
St. Catharines —	301,921	No	—
Niagara			
Kitchener —	272,158	No	—
Waterloo City		Yes	June 1967
London	270,383	Yes	Sept. 1967
Halifax	267,991	Yes	June 1956
Windsor	247,582	Yes	June 1969
Victoria	218,250	No	—
Sudbury	157,030	Yes	Aug. 1952
Regina	151,191	No	—
St. Johns	143,390	No	—
Oshawa	135,196	Yes	Feb. 1953
Saskatoon	133,750	Yes	July 1955
Chicoutimi —	128,643	No	—
Jonquiere			
Thunder Bay	119,253	No	—
Saint John	112,974	No	—

Compiled by the Fluoridation Officer, Canadian Dental Association, Sept. 1979.

cial debt exists. However, recently all municipal debts were removed by the provincial government, hence fluoridation grants can only be received if a debt can be incurred by a municipality. The Department does, on request, assist in estimating costs, training water plant operators and providing laboratory facilities to analyze routine water samples.

— Municipalities in British Columbia can be fluoridated either by administrative decision or referendum. If a plebiscite is held, however, at least 60 per cent of the voters must approve the measure before fluoridation can occur. Water supplies can also be fluoridated if notice of intent is published and no objection is raised; however, if 40 per cent of the customers of a water system indicate opposition to the action within three months of the published statement, a plebiscite remains the only course of action. Attempts to change this legislation have been made, but to date, no action has occurred despite the support of the Minister of Health.

— In the Yukon and the Northwest Territories, the growth of water fluoridation is likely to be slow primarily because of size of communities and the types of water systems that exist in these remote areas. School water fluoridation may be one practical alternative in some instances.

Although data was not collected concerning the mon-

itoring and surveillance of fluoridated water systems throughout Canada, many of these officials contacted made particular mention of problems in this regard. In all cases, under-fluoridation of the water supply, sometimes by as much as 0.6 ppm fluoride, represented the greatest concern. With the optimum level of F in Canadian water supplies usually being 1.2 ppm, fluoridation to the extent of only 0.6 ppm is a serious problem. Reasons offered for this deficiency were primarily related to two problems. First, some community officials where fluoridation was approved in the face of an extremely controversial campaign, see fit to under-fluoridate in an attempt to appease the cadre of opponents. Second, instances of under-fluoridation and often for extended periods of time, are apparently the result of negligent operation of equipment by waterworks operators. While it is difficult to quantify the extent of either problem, both demand the profession's attention.

Another important factor affecting the status of water fluoridation in Canada relates to pending fluoridation initiatives. While it is not possible to identify all of the current initiatives across Canada, the issue is being raised by opponents in numerous communities. Many of the initiatives are directed at communities that have been fluoridated for years. A large proportion will never go to a public vote, but will be decided by local political leaders who have been influenced by a small group of anti-fluoridationists. While these situations are generally occurring in small communities their significance pertains to the fact that nearly all of the initiatives are being instigated by opponents to fluoridation. The tables need to be reversed. Proponents of fluoridation must assume an aggressive and active stance. If opponents are allowed to choose the time and the place for fluoridation confrontations the results are sadly predictable.

If a referendum is ordered by an administrative decree or by petitions of opponents, chances for success decrease significantly, as demonstrated by results from the state of Nebraska in 1974 — 278 fluoridation proposals were rejected while 21 were approved. Statistics from The Center for Disease Control, U.S. Public Health Service indicate that in the United States between 1977 to 1979, four out of five referenda rejected fluoridation.¹⁵ These figures paint a dismal picture for the promotion of fluoridation in North America in the future and emphasize the difficulty of the task at hand for proponents. The Canadian Dental Association is concerned about this dismal trend and will begin immediately to re-establish fluoridation as a public health priority in the 1980's.

Table IV

Population consuming Fluoridated Water in Canada by province — 1980*

Province or territory	Pop. on controlled fluoridation	Pop. on natural fluoridation	Total	Percent of total population
Manitoba	688,321	2,300	690,621	65.0
Ontario	5,142,558	98,889	5,241,447	59.1
Yukon Territory**	13,781	238	14,019	54.0
Nova Scotia**	348,763	0	348,763	40.1
Alberta	765,515	55,911	821,426	39.6
Northwest Territory	19,280	0	19,280	37.0
Saskatchewan	301,199	2,852	304,051	33.2
British Columbia	324,135	0	324,135	27.5
Prince Edward Island	22,073	0	22,073	17.6
Quebec	1,101,750	19,373	1,121,123	17.4
New Brunswick	88,159	6,475	94,634	13.1
Newfoundland	44,253	2,563	46,816	7.9
Canada	8,859,787	188,601	9,048,388	36.9

* Population projections based on percentage change of population 1971-76, Canadian Year Book, 1978-79. Ministry of Industry, Trade and Commerce, 1978.

**1980 data unavailable, figures based on 1977 figures from Fluoridation in Canada, as of December 31, 1976, using 1980 population projections.

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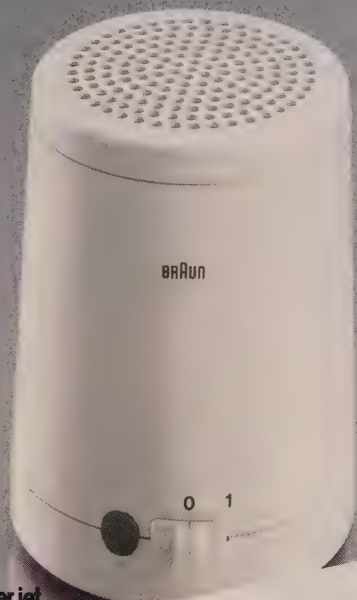
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Restorative
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La dentisterie restaurative

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STATE OF THE ART OF RESTORATIVE DENTISTRY

The scientific articles in this issue are a continuum in the development of improved materials and innovative techniques. The ultimate objective of a perfect substitute for oral tissues remains elusive. Disease processes, functional stresses and physiologic aging produce a constantly changing biological environment in which corrective procedures are applied. These imposing conditions proscribe the expected longevity, that is prognosis, of any treatment.

The myth of "permanent dentistry" must be dispelled. The quest for ideal materials and precision techniques tends to overshadow the necessity for increased knowledge of, and respect for, the long term deficiencies and potential problems any corrective service may exert on teeth, muscle and bone.

The common dental diseases are caries, periodontal disease and disorders of occlusal function. Their sequelae are partial and total edentulism. These states may have a profound influence on the nutritional, psychological and general sense of well-being of the individual.

Basic science research and patient education programs have placed caries and periodontal disease in a preventable category. Restorations and prostheses must be designed to facilitate daily hygienic maintenance by the patient. Similar progress in analysing occlusal function has focussed attention on the distribution of stresses to periodontal and residual alveolar tissues, the maintenance of physiologic neuromuscular function, and preservation of temporomandibular joint structures. The occlusal morphology of restorations and prostheses must be compatible with the functional activities of the orofacial complex. Within these parameters the rigid, non-adaptive nature of corrective services must be integrated into this ever changing biological functional matrix.

Restorative and prosthetic services require modification to respect and accommodate the effects of aging.

The reparative capacity of pulpal and periodontal tissues may be expected to diminish with age. Altered adaptive capability of neuromuscular mechanisms and temporomandibular joint tissues similarly is anticipated; extensive intervention with existing occlusal schemes may be less well tolerated. Aging individuals may lack adequate dexterity for the daily hygienic maintenance of elaborately designed fixed or removable prostheses.

Restorative and prosthetic treatment demands by a population with an escalating percentage of older individuals is a current reality. Until the fountain of youth is located, we cannot ignore the effects of the aging phenomenon. Modification in treatment recommendations to recognize the specific needs of this group and a critical evaluation of the results of their previous services, undoubtedly must influence a reassessment of existing treatment philosophies for younger patients.

Our technical capabilities presently far exceed our awareness of their long-term benefits or deficiencies in preserving oral structures. An impressive array of materials and procedures are available to the restorative dentist. Treatment options invariably exist. *The challenge is deciding what the patient should have done, not what is possible to execute technologically.* Extensive, expensive dentistry may actually complicate and compromise the patient's ability to perform necessary daily hygienic maintenance. The possible need for continued complex corrective services to maintain this environment and their subsequent partial or total replacement is a risk that must be assessed. This is the major challenge confronting the restorative and prosthetic disciplines.

Dennis B. Gilboe, D.D.S., M.S.
Professor and Head,
Department of Restorative and Prosthetic
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OÙ EN EST LA DENTISTERIE RESTAURATIVE

Les articles scientifiques rassemblés dans ce numéro font partie d'une série qui porte sur la création de matériaux nouveaux et sur des techniques inédites. Le parfait substitut pour les tissus buccaux demeure l'ultime objectif des recherches, mais on peut douter que cet objectif sera jamais atteint. Les progrès de la maladie, la fatigue résultant des mécanismes fonctionnels ainsi que l'âge physiologique modifient constamment l'environnement biologique, d'où la nécessité des traitements correctifs. Ce sont ces importantes conditions qui déterminent le pronostic de tout traitement, c'est-à-dire sa longévité prévue.

Il est temps de détruire le mythe de "la dentisterie permanente." La recherche des matériaux parfaits et des techniques infaillibles tend à faire oublier qu'on a besoin de connaître davantage et d'admettre les défauts et les problèmes possibles des traitements correctifs. À long terme, ils peuvent nuire aux os, aux muscles et aux dents.

Les maladies dentaires communes sont les caries, la parodontite, et les défauts d'occlusion buccale. Ces maladies peuvent entraîner la perte totale ou partielle des dents, ce qui peut affecter considérablement le sujet en gênant ses fonctions de nutrition, en créant des embarras psychologiques et en nuisant à son bien-être général.

Grâce à la recherche scientifique et aux programmes d'éducation dentaire, la carie et la parodontite appartiennent au groupe des maladies qu'on peut prévenir. Cependant, il importe que les restaurations et les prothèses soient telles que les soins d'hygiène quotidiens restent faciles pour le patient. Par ailleurs, les progrès réalisés dans l'analyse des fonctions occlusales ont révélé qu'il est important que la pression soit distribuée également sur les tissus du parodonte et les tissus restants des alvéoles, que les fonctions neuro-musculaires soient maintenues et que les articulations temporo-mandibulaires soient préservées. La morphologie occlusale des restaurations et des prothèses doit donc être adaptée aux mouvements fonctionnels du système bucco-facial. C'est en tenant compte des exigences qu'impose ce mécanisme biologique sans cesse changeant qu'il faut pratiquer des traitements correctifs rigides qui, eux, n'ont pas la propriété de changer.

Aussi les services restauratifs et prothétiques doivent-ils être modifiés de façon à s'ajuster aux effets de l'âge. Par exemple, les tissus pulpaire et parodontaires peuvent se réparer, mais cette capacité se perd avec l'âge. Pareillement, les mécanismes neuro-musculaires et les articulations temporo-mandibulaires finissent par ne plus s'adapter aux modifications. Il s'ensuit qu'ils supportent moins bien les interventions majeures pratiquées sur l'appareil occlusal. De plus, les gens deviennent souvent moins habiles en vieillissant et ne sont plus capables de voir aux soins d'hygiène quotidiens que nécessitent les prothèses amovibles ou fixes compliquées.

C'est un fait que, présentement, le nombre des gens âgés qui demandent des soins restauratifs ou prothétiques augmente sans cesse. Tant qu'on n'aura pas découvert la fontaine de jouvence, on ne peut ignorer les effets du vieillissement. Il est indubitable que les nouvelles recommandations faites pour reconnaître les besoins des vieillards, ainsi qu'un jugement critique porté sur les résultats des soins qu'on leur donnait jadis, doivent influencer la réévaluation des traitements prodigués actuellement aux jeunes patients.

Présentement, nos capacités techniques dépassent largement nos connaissances sur les avantages ou les inconvénients qu'elles entraîneront à long terme pour l'appareil buccal. La dentisterie restaurative possède une gamme impressionnante de matériaux et de traitements. Il est donc inévitable qu'il y ait plusieurs choix. *Le défi réel consiste à choisir ce dont le patient a besoin, non ce qu'il est possible de faire techniquement.* Un traitement dentaire long et coûteux peut en effet nuire à un patient et le rendre incapable de veiller à ses soins d'hygiène quotidiens. Il se peut qu'un individu ait besoin de traitements correctifs complexes pour préserver son environnement buccal ou obtenir des restaurations totales ou partielles mais il n'en reste pas moins que c'est là un risque qu'il convient d'évaluer. C'est le défi majeur que la dentisterie restaurative et prothétique a à relever.

Dennis B. Gilboe, DDS, MS,
professeur et chef du département de
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CDA assured of meetings about dental therapists

"The ball is in our court" and with that statement the director general of operations, Medical Services Branch, Health and Welfare Canada, Dr. Brian Brett assured organized dentistry that his department would initiate meetings at the provincial and regional levels to discuss the whole issue of dental therapists.

The six hour meeting, instigated by the Canadian Dental Association, organized in conjunction with Medical Services Branch and mandated by the provincial associations was held Friday December 12 at the R.H. Coates Building, Tunney's Pasture, Ottawa.

The Canadian Dental Association had expressed concern to the Prime Minister in 1979 that the government appeared to be breaking the law by infringing on the jurisdiction of the provincial licensing bodies through the introduction of an auxiliary program (dental therapists) to serve Inuits and registered Indians on Crown lands within Provincial borders. The CDA policy is that all irreversible therapeutic dental acts or services must be rendered by a licensed dentist.

Co-chaired by CDA Board Chairman Dr. Nick Mancini and Dr. Brett, the meeting was attended by Dr. L. M. Black, assistant deputy minister Medical Services Branch, who was forced to leave before the first hour was completed to deal with urgent department budget matters; CDA President Dr. Gil Utas; Management Committee members Dr. Don Williams and Dr. Clyde Covit; senior representatives from each provincial dental association and licensing bodies, the deans of three dental schools, federal representatives from six regions across Canada and other federal personnel including Dr. Keith Davey, director of the dental therapy school at Fort Smith, an advisor to the ADM, fed-

eral dental consultant Dr. Thomas J. Gavrilloff, a health advisor to the Indian Brotherhood and Miss Cathie Bruyere representing the National Indian Brotherhood.

In summarizing the meeting, co-chairman Dr. Brett said that the most important good news was the availability of dental manpower. He urged everyone at the meeting to make a commitment to work together . . . to forget the past; we're most anxious that things start to move. "I assure you" he said "it's up to me to go to my superiors . . . we want to move in specific directions." To a direct request from CDA President Utas that the Medical Services Branch assume the responsibility of initiating meetings on the provincial and regional levels to pursue the dental therapists issue, the director general responded, "the ball is in our court."

Earlier in the day Assistant Deputy Minister Black, who termed the meeting long overdue, told the profession that the federal government is responsible for dental care for Indians and Inuits on Crown lands and other isolated areas. He said the government is faced with rampant dental decay among its clientele which numbers about 300,000. He explained that federally sponsored dental care provides a broad range of dental services including education, prevention, prophylaxis and treatment. These people, he said, require continuing care, not on a two or three week basis. He said the program had to be cost-consistent with resources and that dental personnel had to work with other health people in the community. While he said he was prepared to relocate the dental therapists to more remote locations if the above requirements were met, he said he was not prepared to close down the dental therapy school.

The assistant deputy minister told

the profession he was not prepared to gamble . . . if and when you can guarantee service . . . we need to see they are given service and will continue to be treated. We have a clientele with enormous problems, he said . . . we'd rather do it with you . . . we must work together.

Dr. Utas pointed out that the Canadian Dental Association had received a commitment from Deputy Minister Larry Fry that there would be a postponement of plans to relocate or expand the school of dental therapy at least until this meeting was held.

The dental therapy school at Fort Smith needs to relocate because the field training and experience required is no longer available at that site. The options considered by the federal government are British Columbia, Saskatchewan and Ontario. Dr. Brett said consultations with the native people in the province, the provincial government and provincial dental association will be carried out before any move. However, the College of Dental Surgeons of B.C. was not consulted; the B.C. government has declined the offer for construction of the school at the present time, placing the project on the back burner. Dr. Brett acknowledged meetings have not been held in Saskatchewan or Ontario.

Leading the national and provincial dental contingent, CDA President Dr. Utas explained that while there was a shortage of dental manpower when the school for dental therapists went into operation in 1972, the situation was now dramatically reversed with a surplus of dentists and maldistribution in some areas. It was noted that approximately 500 new dental students graduate yearly in Canada. The dental therapy school has graduated 90 individuals, 30 of them natives.

continued on next page

CDA - Government discuss therapists

continued from page 75

since inception. All Canadians he said are entitled to the finest dental care.

The Ontario and Quebec dental associations made strong presentations to the government, each assuring Medical Services Branch they could provide a pool of manpower for outreach programs and would work to provide manpower to other provinces to alleviate short term problems. Ontario Dental Association President Dr. Brad Holmes sought assurances from Medical Services Branch that there would be dialogue with the provinces and sufficient funds to explore alternatives. He cited one example where co-operation works, effectively. In Kenora he said one day each week a fully booked general practitioner goes into the White Dog area to treat children.

Dr. Chicoine, president and executive director of l'Association des chirurgiens dentistes du Québec reported his association had a bank of 150 dentists ready to go into remote areas. In response to Miss Bruyere's question "where are the dentists and what is really happening here?" Dr. Chicoine said "what we have come to say to the federal government is that the province is ready to take on their (native) problems and do everything possible to satisfy their needs." However, he said we must have a commitment from the federal government. "Are you prepared to say yes?" he asked the chairman.

The dean of the University of Manitoba Dr. A. Schwartz suggested there had been many mistakes on both sides, by Medical Services, CDA, the provinces and individual dentists. He listed his experiences as a private practitioner, federal civil servant in the Medical Services Branch and dean of a dental school. He warned the provincial associations that it might take some time to introduce a comprehen-

sive dental system across Canada to serve the native people. And he suggested the University of Manitoba would be prepared to service some of these remote areas.

The president of the Manitoba Dental Association Dr. H. Diamond said his province looked to dental therapists as a stop-gap measure, but could handle the situation with dentists to serve all areas of the province in three to four years.

CDA President-elect Dr. Williams pointed out that dentists across Canada could meet the objectives for care to all native peoples in a far shorter time frame than the dental therapists. The dental therapist time frame is 10 years. The dental profession, Dr. Utas said, would take three to four years to get the programs in place subject to the support of the federal government.

Dr. E.W. Zak, vice-president of the College of Dental Surgeons of Saskatchewan also called for a commitment from the federal government and if we get it, he said, we would lean over backwards to serve. "Our graduates would go into isolated areas," he said.

Dr. B.P. Martinello, executive director, registrar of the Alberta Dental Association reported he was prepared to go back to Alberta to get the ball rolling. But he said "we have to do it together, we need a commitment from Health and Welfare and we have to know what those commitments are."

Dr. L.C. Mandin, Alberta chairman of the Ad Hoc Committee, Dental Services to Native People, argued the dental team approach was the best solution. He proposed native dentists and suggested the dean of the dental school was prepared to co-operate.

Dr. T.E. Ramage, president of the College of Dental Surgeons of B.C. noted with the new B.C. Government Dental Plan the provincial govern-

ment has assumed the dental expenses for natives in B.C. and he urged a meeting with the Indians, provincial and federal government representatives. "What we need to know", he said, "is who we can contact?"

Dr. S.G. Bagnall, registrar of the Provincial Dental Board of Nova Scotia assured the meeting that the Nova Scotia children's dental program is available to the entire population. "We have no isolated area" he said. "Our manpower is increasing and we can handle any problem in the area, so please let us know what the problem is."

The registrar of the Newfoundland Dental Association, Dr. B.L. Bowden explained that while there were 2,300 native people, there were no reserves. With Ontario's and Quebec's offer of a manpower pool, we could handle our problems with a few extra bodies, he said.

Dr. Messer of the International Grenfell Association explained the dilemma faced by his organization in securing Canadian dentists to service northern Newfoundland and Labrador. Having heard the Ontario and Quebec offers relating to manpower, he said he personally felt his organization could use both dental therapists and dentists, but given the choice he would prefer the dentists.

Dr. R.A. Turcotte, New Brunswick representative to the CDA Board of Governors noted there were 14 reserves in New Brunswick, all within 20 miles of a dentist.

The president of the Dental Association of Prince Edward Island Dr. D. O'Connell noted that comprehensive care is available to all people in the province. "If you want dentists to work in the north" he said, make them an offer they can't resist."

The School of Dental Therapy

continued on page 79

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Therapists

from page 76

began operation to meet the need for dental services in the north and mid-north corridor to registered Indian and Inuit populations residing on reserves and Crown lands and residents of the Territories. Dr. Davey says the program works: because the therapist becomes a resident, the program is standardized, each operates a manageable population, there is quality control, the therapist has a high profile in the community, the main thrust is preventive and children's dentistry, it's portable, there's controlled planning and it's reasonably economic. Dr. Davey said he felt the dental therapists should be under the umbrella of the profession, but he said, the government was good enough to take it up.

Six field directors from Medical Services Branch outlined their areas of responsibility in detail with the Dental Therapy Program. They cited many problems including: transportation, isolation, insufficient service, the difficulties with very small communities and how to get dental care to them, costs, the lack of dentists, poor housing, and the long distances to travel.

Those attending the meeting included: Dr. L.M. Black — Assistant Deputy Minister, Medical Services Branch; Dr. H.B. Brett — Director General, Operations, Medical Services Branch; Dr. F.H. Hicks — Director General, Policy Planning & Evaluation, Medical Services Branch; Mr. I.C. Inglis — Special Advisor to the Assistant Deputy Minister; Dr. A.I. Murdock — Acting Director, Native Health Services, Medical Services Branch; Dr. T.J. Gavriloff — Dental Consultant, Native Health Services; Dr. J.T. Moran — Regional Dental Officer, Pacific Region; Dr. J. Andrus — Regional Dental Officer, Saskatchewan; Dr. D.M. Linklater — Region-

al Dental Officer, Ontario; Dr. W.R. Bedford — Regional Dental Officer, Manitoba; Dr. K.W. Davey — Director, School of Dental Therapy; Dr. J. Coombs — Chief Medical Consultant, National Indian Brotherhood; Dr. J. Messer — Director, Dental Services, International Grenfell Association; Dr. A.R. Ten Cate — Dean, Faculty of Dentistry, University of Toronto; Dr. A. Schwartz — Dean, Faculty of Dentistry, University of Manitoba; Dr. N.A. Mancini, Chairman — CDA Board of Governors; Dr. G.E. Utas, President — CDA; Dr. D.E. Williams, President-elect — CDA; Dr. C. Covit, Past-president — CDA; Brig.-Gen. W.R. Thompson, Director General of Dental Services (Canadian Forces Dental Services) CDA Executive Council; Mr. H.E. Drouin, Executive Director — CDA; Miss Ann Hammell, Director of Communications — CDA; Dr. G.S. Beagrie, Dean, University of B.C.; Dr. T.E. Ramage, President, College of Dental Surgeons of B.C.; Dr. L.G. Mandin, Chairman, Ad Hoc Commit-

tee, Dental Services to Native People; Dr. B.P. Martinello, Executive Director/Registrar, Alberta Dental Association; Dr. E.W. Zak, Vice President, College of Dental Surgeons of Saskatchewan; Dr. H. Diamond, President, Manitoba Dental Association; Dr. B.W. Holmes, President, Ontario Dental Association; Dr. E.J. Fox, Deputy Registrar, Royal College of Dental Surgeons of Ontario; Dr. C. Chicoine, President & Executive Director, Association des chirurgiens dentistes du Québec; M. André Tremblay, Association des chirurgiens dentistes du Québec; Dr. J.G. Landry, President, L'Ordre des dentistes du Québec; Dr. R.A. Turcotte — New Brunswick representative, Board of Governors — CDA; Mr. D.V. Pamenter, Executive Director, Nova Scotia Dental Association; Dr. S.G. Bagnall, Registrar, Provincial Dental Board of Nova Scotia; Dr. D. O'Connell, President, Dental Association of P.E.I.; Dr. B.L. Bowden, Registrar, Newfoundland Dental Association.

The Royal College of Dentists of Canada

Recently, the Council of the Royal College of Dentists of Canada approved two important changes in the College:

1. The establishment of a new category of association with the College to be known as "Membership." This may be obtained by successfully completing the Part I examination *or* by current eligibility (see below).
2. An addition to the present Part I (written) examination of a one hour oral clinical examination. This will be effective in 1981.

Current Eligibility for Membership

The College is pleased to offer Membership without examination to the following groups of dental specialists:

1. All specialists who have presently passed the Part I examination for Fellowship
2. All specialists who hold the N.D.E.B./R.C.D.C. portability certificate
3. All specialists who have held provincial certification for a minimum period of eight years as of January 1, 1981

Applications for Membership in the Royal College of Dentists of Canada and/or information concerning the Part I examination may be obtained by writing to: Dr. John E. Speck, registrar, the Royal College of Dentists of Canada, 170 St. George Street, Suite 614, Toronto, Ontario M5R 1T9. Telephone 416-964-7263.



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Prescribing information on next page

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Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect. Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid. Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain, accompanied by inflammation, in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Ibuprofen should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Ibuprofen should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving ibuprofen. Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with ibuprofen, a cause and effect relationship has not been established. Ibuprofen should be given under close supervision to patients with a history of upper gastrointestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving ibuprofen, the drug should be discontinued and the patient should have an ophthalmologic examination. Fluid retention and edema have been reported in association with ibuprofen, therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Ibuprofen, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Ibuprofen has been shown to prolong bleeding time but within the normal range in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, ibuprofen should be used with caution in patients with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on ibuprofen should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When ibuprofen is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with ibuprofen therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to ibuprofen and other nonsteroidal anti-inflammatory agents more often than those with other disorders. Caution should therefore be exercised when considering ibuprofen therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants - Several short-term controlled studies failed to show that ibuprofen significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when ibuprofen and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering ibuprofen to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A., given with non-steroidal anti-inflammatory agents including ibuprofen, yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on ibuprofen blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with ibuprofen:

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to ibuprofen cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with ibuprofen therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn
Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System

Incidence 3 to 9%: dizziness
Incidence 1 to 3%: headache, nervousness
Incidence less than 1%: depression, insomnia
Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic

Incidence 3 to 9%: rash (including maculopapular type)
Incidence 1 to 3%: pruritis
Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses

Incidence 1 to 3%: tinnitus
Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during ibuprofen therapy should have an ophthalmologic examination (see PRECAUTIONS)
Causal relationship unknown: conjunctivitis, diplopia, optic neuritis.

Metabolic

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit
Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS).

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdose: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of ibuprofen each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of ibuprofen reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days bed rest.

In cases of acute overdose, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: **Rheumatoid arthritis and osteoarthritis:** The initial daily dosage in adults is 1200 mg divided into 3 to 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain associated with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

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FDI withdrawal "astounding"

I was astounded and humiliated to read in the November Journal of the withdrawal of our Association from the Federation Dentaire Internationale because of "the many inequities which exist in F.D.I.'s membership fee structure," for I was always under the impression that Canadian dentists were among the most loyal and magnanimous in their support of F.D.I.

There are some, I suspect, myself among them, who are appalled by this immature and impetuous reaction to a relatively minor problem in international dental politics.

David K. Peters, D.D.S.
St. John's, Newfoundland,
Past President
Canadian Dental Association

Editor's note: Dr. Peters' concern is noted and he is referred to the January, 1981 Journal where CDA's renegotiations with FDI are reported.

Amine not amino acid

There is an unfortunate error in our book review published in the December issue of the Journal. It should read "Cysteamine is not an amino acid", whereas the Journal says "Cysteamine is an amino acid". That is just the error in the book we intended to mention. I wonder whether you can correct this obvious error? An amine cannot possibly be an amino acid.

B.G. Benfey, M.D.,
H.S. Katz, DDS, Ph.D.,
McGill University,
Montreal, Quebec



A dentist in the House

Dr. Bud Bradley has two homes, two professions and lives in two cities. He's a dentist come politician who splits his time between his patients and constituents in Dunnville Ontario and his Parliamentary commitments in Ottawa.

Dr. Bradley is currently serving his second term as a Conservative Member of Parliament. Prior to his first election in May, 1979, Dr. Bradley had served on Dunnville's municipal council and had been vice president of the Haldeman-Norfolk Progressive Conservative Association.

Dr. Bradley credits his associate and hygienist with running his practice in his absence, but during the past year he has still managed to fit in two or three office days every week, work-

ing Fridays, Saturdays and Mondays. "There are some patients who want you and only you," he says, adding that during the three-month parliamentary summer recess he works more than 50 per cent of the time.

Getting home to Dunnville means a flight to Hamilton and a drive the other 120 kilometres south but it's a trip Dr. Bradley makes willingly to keep in touch with his community.

"Politics and dentistry are very similar," says Dr. Bradley. "Both mean you're constantly involved with other people. Political life may not be as hectic as dentistry minute-by-minute, but the hours are just as long, or even longer, and politicians never really know when their day is going to end."

But Dr. Bradley firmly believes his training as a dentist has prepared him well for politics.

"My professional education gave me a grounding on how to deal with people and, let's face it, you do gain a certain respect of people through dentistry. This puts dentists in an amiable position for starting out in politics."

Organizational techniques first honed by Dr. Bradley when he was in the army as an infantry officer during World War II, were sharpened during his years as a full time dentist and are the key to the stability of his hectic life as a politician.

On a typical day, Dr. Bradley arrives at his office on Parliament Hill at 8:30 a.m. He checks his mail, writes letters, and consults with his staff (two



Dr. Bud Bradley, M.P.

"My professional education gave me a grounding on how to deal with people . . ."

secretaries and a research assistant) before his first meeting at 9:15. From 10 to 12:45 he meets with Caucus members. Press interviews or other public-related functions are usually scheduled for 1:30 prior to Question Period from 2 to 3 p.m.

At 3 o'clock he goes back to his office to catch up on correspondence before any 4 p.m. meetings such as the P.C. Elections Committee.

Wednesday nights Dr. Bradley is back in the House of Commons and three days a week, he has committee meetings at 9:30 a.m., 3:30 p.m. and 8 p.m.

Dr. Bradley also supervises the work of two secretaries in two constituency offices that serve 77,000 voters.

He sees his first requirement as a member of Parliament as a representative of his constituents but he is also a self-professed "dental link" with Government.

\$1,000 Award for Graduate Research from CDRF

The Canadian Dental Association recognises that the practice of dentistry has undergone great changes in the past and anticipates more developments in the future as a result of scientific discoveries and technological developments. Continuous attention should be addressed to research on the part of both the basic science and clinical faculties in schools of dentistry. The Association also believes that encouragement and stimulation should be provided for research in dentistry. Not only do faculty members or graduate and post-graduate students gain personally from discovering and developing new knowledge, but often their teaching or practice is more stimulating. Ultimately society gains from application of new knowledge; in the case of dentistry society benefits by receiving improved oral health care.

It is mainly for these reasons that a fund was provided in 1920 by a group of 15 Canadian dentists incorporated under the name of "The Canadian Dental Research Foundation." As recorded by the original Letters Patent, their purposes and objects were to "Serve humanity and the dental profession by investigation, study and research in connection with oral defects and disorders and all other matters pertaining to the science and practice of dentistry." The work is to be done by recent graduates.

**Fund established
by 15 Canadian
dentists in 1920
. . . for research
by recent graduates**

This fund is administered by the Canadian Dental Association through its Council on Dental Materials and Devices. The purpose of the award is to

encourage research related to dentistry conducted by graduate or post-graduate students in Canada; entries are limited to the candidates who have conducted their work in association with the dental faculty of a Canadian University.

A prize of \$1,000 and a plaque is made available annually and presented to the student who submits the best report on a research project. The CDRF trophy is also presented to the dean of the dental school or to the chairman of the department in which the research was conducted. The trophy remains in this institution for a period of one year.

Each entry is judged by a group of three referees appointed by the Council on Dental Materials and Devices. The referees are persons qualified in the particular subject in question and are usually Faculty members of Canadian Universities. The Council on Dental Materials and Devices is aware of the possible diversity of the submissions and binds itself to judge each contribution on its own merit and level of competence of the applicant.

If possible, the award may be presented and a paper may be read at the annual meeting of the CDA or at the ACFD Biennial Conference on Canadian Dental Education and Research.

The manuscript submitted must be based on original research and should not exceed 25 pages. Equally acceptable is a previously published paper on the candidate's graduate work either currently in press or already published in a scientific journal not earlier than two years, provided the candidate of the competition is the senior author.

All eligible candidates are encouraged to apply to CDA headquarters for rules and entry forms. The 1st of December of each year is the deadline for filing.

In the News

Faculties

ALBERTA ... Dr. P.D. Schuller, a member of the University Committee for the Improvement of Teaching and Learning, has founded the Edmonton Periodontal Continuing Education Society. Dr. J. Plecash is the Society's current president.

BRITISH COLUMBIA ... The Faculty of Dentistry's Division of Graduate and Postgraduate Studies has introduced a program to permit dental students to intercalate course work leading towards an M.Sc. in Dental Science in their undergraduate program. Graduate courses, including research projects, may be taken dur-

ing four spring and summer sessions. Following graduation in Dentistry, students are then required to spend a further resident year to complete the M.Sc. degree.

DALHOUSIE ... Recent faculty appointments include Dr. Tom Blackmore, director, Patient Care; Dr. Doug Chaytor, chairman, Department of Restorative Dentistry; Dr. Bruce Graham, head, Division of Removable Prosthodontics; Dr. Wayne Barro, head, Division of Orthodontics; Dr. Robert Hoar, assistant professor, Prosthodontics; Linda Zambolin, clinic coordinator, School of Dental Hygiene. New faculty members include Dr. Marlene Mader, lecturer, Pedodontics; Dr. E. MacInnis, assistant professor, Oral Surgery; Dr. M. Seywerd, instructor, Removable Prosthodontics; Dr. V. Shannon, assistant professor, Periodontics; Gail Fielding, lecturer, Dental Hygiene Anatomy; Marilyn Kinnear, lecturer, Dental Hygiene.

LAVAL ... New faculty members include Dr. Guy Boileau, Oral Biology; Dr. Jean-Paul Goulet, Radiology — Diagnosis; Dr. René-Guy Landry, clinic director; Dr. Guy Maranda, Surgery; Dr. Sylvie Morin, Operative Dentistry; Dr. Christian Mouton, Research; Dr. Christian Vadéboncoeur, scholar of the CRSQ.

MANITOBA ... Both Dr. J. Curran and Dr. D. Wedgwood have been successful in Royal College of Dentists Fellowship examinations.

McGILL ... Dr. Andrew Pullinger is on sabbatical leave to continue research on "A Tomographic Assessment of Beneficial Changes of Joint Position in the Temporomandibular Articulation in Dysfunction Patients."

SASKATCHEWAN ... Dr. Dennis Gilboe, Restorative and Prosthetic Dentistry, has been elected to the Bylaws and Constitution Committee of the American Equilibration Society.

Societies

Canadian Academy of Endodontics

... 1981 executive includes Dr. Bruce Burns, Toronto, president; Dr. Joel Edelson, Toronto, president-elect; Dr. Marshall Peikoff, Winnipeg, treasurer; Dr. Michael Sherman, Hamilton, secretary; Dr. Stephen Brayton, Halifax, past president. The CAE will hold its 1981 annual meeting in Vancouver, British Columbia, October 16 to 18. The Seventh Annual Endodontic Teachers' Workshop is scheduled for October 15 in Vancouver. Dr. Joel Edelson is chairman of the Workshop.

B.C. Society of Pediatric Dentists ... executive includes Dr. Gary Derkson, president; Dr. Tim Tam, vice president; and Dr. Richard Abrams, secretary/treasurer.

Guy Maranda appointed

Canadian Dental Association Governor, Dr. Guy Maranda, has been appointed an examiner for the Royal College of Dentists of Canada. Dr. Maranda is also a newly named professor of dentistry at Laval University. After receiving an Arts degree from the University of Ottawa, Dr. Maranda graduated from the University of Montreal Faculty of Dentistry in 1962. He completed a two-year residency program in oral surgery at the Geisinger Medical Centre in Danville, Pennsylvania. The author of several publications, Dr. Maranda has been teaching at Laval's Faculty of Dentistry since 1969.

C.E. forms available

Continuing education course listing forms are now available from the Canadian Dental Association.

The CDA Journal will publish listings of continuing education programs offered by recognized institutions three times a year to provide Canadian dentists and other professionals with the most up-to-date course information.

Degree-granting programs will not be included, but listings may include scientific and professional sessions held during conventions.

Forms may be obtained from: The Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ont. K1G 3Y6.

Notice of Award

The Canadian Dental Research Foundation (CDRF) encourages research related to dentistry conducted by graduate or post-graduate students in Canada. A prize of \$1,000 is made available annually and presented to the student who submits the best report on a research project. Rules and entry forms can be obtained from the executive director, CDA, 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6. Entries should be submitted not later than December 1st.

Body identification

The Metropolitan Toronto Police are asking assistance in identifying a male body located in a park in North York, Ontario, September 21, 1980.

The body is described as: male, Caucasian, aged in the twenties, brown hair, nose slightly bent to the right, slim build, estimated weight is 120 to 140 pounds, height 5'10" to 5'11½".

Student membership

Student membership in the Canadian Dental Association has reached 93.9 per cent for 1980-81, less than one percentage point shy of the 1979-80 record high of 94 per cent.

Out of a total of 2,002 dental students at ten faculties of dentistry across Canada, 1,881 have joined CDA. Student members qualify for attractive membership benefits including a no-cost graduate insurance package and a free six-month membership in CDA immediately following graduation.

Student representatives and the percentage membership for each university are: Patti Crosson, University of British Columbia (95 per cent); Harold Elke, University of Alberta (94 per cent); Joseph Schwann, University of Saskatchewan (100 per cent); Mark Sevier, University of Manitoba (88 per cent); Peter Judd, University of Western Ontario (98 per cent); Warren Hing, University of Toronto (99 per cent); Rita Hurley, McGill University (98 per cent); Milena Simicic, University of Montreal (79 per cent); Marcelle Theriault, Laval University (91 per cent); Graham Usher, Dalhousie University (97 per cent).

It is not known how this man met his death.

Investigations to date lead police to believe the body may be that of a Michael Joseph Nugent, aged 27 years, although there is no conclusive evidence to support this belief.

An examination by Dr. D.W. Stoneman of the Department of Radiology, Faculty of Dentistry, University of Toronto reveals the following:

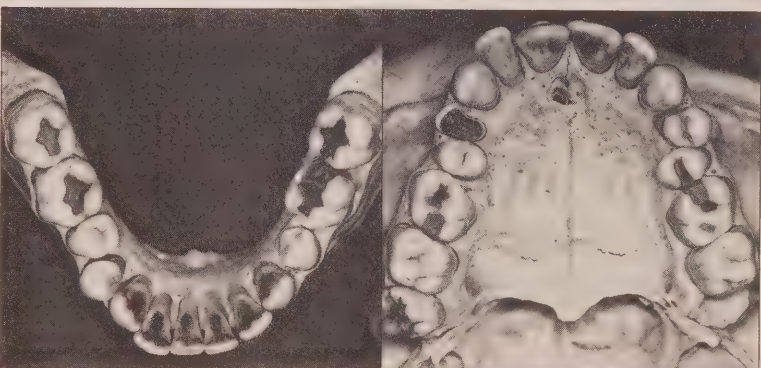
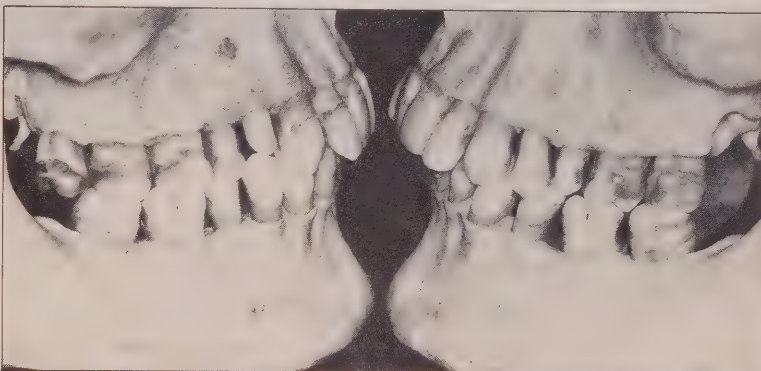
"The maxillary right third molar is erupted and the root formation is complete, so that the age of the

deceased would be at least 21 years.

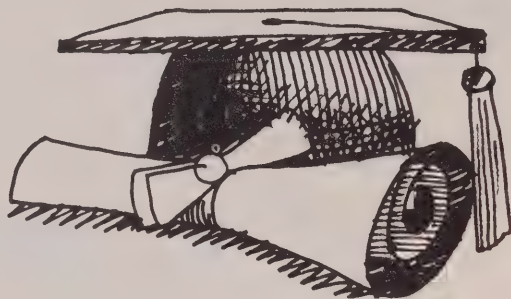
"The maxillary left third molar has been lost postmortem.

"There were no unerupted, impacted or supernumerary teeth and no endodontic therapy had been performed."

Dentists who may have information to help in the identification of this body are asked to contact Staff Sergeant Herbert Trew or Sergeant Anthony Warr, Homicide Squad, 590 Jarvis Street, Toronto, Ontario M4Y 2J5. Telephone (416) 967-2375.



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S.N. Bhaskar, ed.

Orban's Oral Histology and Embryology

*C.V. Mosby Co., St. Louis,
Toronto, London
97 edition, cloth,
482 pages \$29.95*

Common faults of multi-authored textbooks are unevenness of style and levels of treatment. On the first of these the new edition of 'Orban' cannot be faulted: the even style and indeed, much of the text of older editions have been retained. This leads to a criticism of material presented in certain chapters. While in some sections creditable efforts have been made to revise the subject matter, others are woefully out of date.

Johnston's chapter on facial development has some new scanning electron micrographs which are helpful. He has provided other new illustrations, though not always with an increase in clarity; thus, compare Fig. 1-5 with its predecessor in the 8th edition. A welcome change is the inclusion of drawings (Plate 1) which more accurately demarcate the facial processes during development than did those they replace. For example, the position of the junction of maxillary and lateral nasal processes shown in earlier editions made it impossible to appreciate how the nasolacrimal duct develops.

The chapters dealing with general dental tissues are authoritative and reasonably up to date. It is gratifying to see that the existence of von Korff fibres in dentinogenesis is not disputed. But, when so many excellent pictures of these structures are available, it is strange to find them depicted by a photomicrograph (Fig. 4-31) originally published to demonstrate that the fibres are artifacts!

The chapter on enamel gives the generally accepted view that four ameloblasts contribute to each enamel prism. The trouble

with such a view is that it is not consistent with prism decussation¹.

The addition of a figure (Fig. 2-15) and a few minor changes such as substitution of "ectomesenchyme" for "mesenchyme" cannot disguise the fact that the content of the chapter on growth and development of the teeth (Chapter 2) has not been revised since the 6th edition of 1966. Inclusion of Kollar's name among the list of references should not beguile the unwary into believing the text may contain a reasonably modern account of tissue interactions concerned with determining tooth shape. His important work on this topic, as well as that of Ruch's group, is totally ignored. Instead, under the subheading "Morphodifferentiation", the reader is served up with the 1966 account, verbatim!

In the 1966 edition, the chapter on the temporomandibular joint lacked descriptions of development, blood supply and innervation. All too brief notes on these topics have been added and those on innervation are incomplete in the light of present-day knowledge. Otherwise, the factual content of the chapter has not changed except that, of the references appended in the 1966 edition, seven have been deleted and two "new" ones have been added, dated 1962 and 1964, respectively.

In the Introduction to the book the hope is expressed that it will give undergraduate and graduate students a better understanding of the tissues they are called upon to heal. I feel that this laudable goal is not always met by the text. I could recommend the book to students if it were brought up to date and if, in addition to a section on facial development and its anomalies, there were one

on facial growth. Also, even at the undergraduate level, I would be happy to see more discussion of topics on which a number of viewpoints exist.

For example, under the subheading "Innervation" (p. 122), several alternatives are mentioned to explain the sensitivity of dentine but the evidence is poorly discussed, if at all. Thus: "Movement of the odontoblast process, which in turn activates the endings in inner dentine or adjacent to the odontoblast cell body, is one explanation." What might move the odontoblast process and where is the evidence? We are not told. The work of, e.g., Brannström, fundamental to an understanding of dentine sensitivity, is not seriously mentioned, nor is it cited among the references. This lack of discussion fosters rote-learning, not understanding. A worthy exception is Ten Cate's account of the mechanism of tooth movement (pp. 380-382).

On the basis of the above, I would not recommend the new 'Orban' as the sole text in an undergraduate or graduate course. The better chapters, however, may enable this standard work to retain some place as a reference book.

For the dental student at whatever level there are, for general purposes, a number of texts available which are more comprehensive in their scope and more up to date^{2,3,4}. For stimulating discussion of special topics in dental histology, the little book by Osborn and Ten Cate⁵ can also be recommended.

Of misprints and other frailties, a selection follows. As in the last two editions of 'Orban', 'caries' is used as a plural; it is a disease and is neither singular nor plural.

(continued on next page)

Publications

(continued from page 87)

On p. 410, there is "cytoplasmic" and "wiglike processes" (!); on p. 411, we find "incomplete". "Trabeculum" is given for trabecula (pl. trabeculae) on p. 433.

An ugly usage has crept into 'Orban' and has increased since the 6th edition: many legitimate, workaday histology terms have been pounced upon and corralled within quotation marks, e.g., "canaliculi" (p. 108). Why? Nobody is being quoted. If attention

"The better chapters . . . may enable this standard work to retain some place as a reference book.

needs to be drawn to particular words, the use of italics would be less of an eyesore; or perhaps such inoffensive words could be left to stand on their own merits; in the past, most of them were permitted to do so.

If 'Orban' is not radically revised I fear that its future will be far less glorious than its past, especially now that there are so many texts competing for the same market. Perhaps ominously, one of these competitors² was also published this year by C.V. Mosby. The kind of revision I have in mind has had a most salutary effect on the fortunes of 'Gray's Anatomy', 1973 (35th British) edition of which ushered in what amounts to a new, modern textbook. The 36th edition is due to appear in the near future.

1. Osborn, J.W. (1973) Variations in Structure and Development of Enamel. In, *Dental Enamel — Development,*

Structure and Caries. Oral Sciences Reviews, A.H. Melcher and G.A. Zarb (eds.). Munksgaard, pp. 26 ff.

2. Ten Cate, A.R. (1980) *Oral Histology — Development, Structure and Function.* The C.V. Mosby Company, St. Louis.

3. Shaw, J.H., Sweeney, E.A., Cappuccino, C.C. and Meller, S.M. (1978) *Textbook of Oral Biology.* W.B. Saunders Company, Philadelphia.

4. Scott, J.H. and Symons, N.B.B. (1977) *Introduction to Dental Anatomy.* Churchill Livingstone, London and Edinburgh.

5. Osborn, J.W. and Ten Cate, A.R. (1976) *Advanced Dental Histology.* John Wright and Sons, Bristol.

Reviewed by
Dr. D.J. Wigglesworth,
associate professor,
Department of Oral Biology,
University of Alberta.

Report of Working Group on Preventive Dental Services

Preventive Dental Services -

Practices, Guidelines and Recommendations

National Health and Welfare, Ottawa, Ontario, 1980

This report is unquestionably the most significant contribution to the area of preventive dentistry within the past year and perhaps for several years. The Working Group, under the chairmanship of Dr. Don Lewis of the Faculty of Dentistry, University of Toronto, has reviewed, analysed, summarized and made specific recommendations on a wide spectrum of

clinical preventive procedures and materials.

The group members include researchers, teachers, community health workers, dental hygienists and private dental practitioners and the strength of the document lies in the fact that the varied interests, orientations and talents of these people were incorporated into the report. It therefore has a wider appeal than most reports which tend to be directed toward a limited or special interest audience.

There is a wealth of well documented and practical information in this publication for anyone interested in dental disease prevention.

Some readers may be surprised at several of the recommendations because they contradict what may be perceived as accepted practice. However, the application of any preventive program or regimen should be based on sound clinical evidence and clearly defined criteria.

This report examines the scientific basis for existing practices and suggests that dentists need to look more critically at certain routine preventive procedures such as oral irrigators, professionally applied in-office topical fluorides for patients fully exposed to water fluoridation, recall oral and radiographic examinations and semi-annual prophylaxis.

The first three chapters (comprising Part I) provide a succinct description of where we are at the present time with respect to prevention in dentistry. Some readers may find this section somewhat academic because it reviews the etiology and epidemiology of the three common dental diseases — caries, periodontal disease and malocclusion, outlines preventive interventions and strategies and effectively points out that formal

guidelines for preventive dental services are not presently readily obtainable and that current practices are difficult, if not impossible, to describe specifically.

The chapters in Part II offer an exhaustive review of clinical preventive procedures and materials including plaque control, diet, fluoride, dental health education as well as combinations of preventive methods. In addition to presenting the accumulated evidence of the effectiveness of each in a logical (and often well illustrated) manner, the text clearly delineates the do's and don't's, puts to rest widespread fallacies and makes appropriate and well-supported recommendations related to clinical use.

If the evidence relating to a particular agent or technique is not

conclusive, the decision is left to the reader as to whether it should or should not be utilized in practice.

There is something of interest available in this publication for almost any reader concerned with preventive dentistry. General dental practitioners will find the section on space maintenance helpful because such information is not readily available from any other single source. But other sections such as fluoride supplements, pit and fissure sealants and mouth protectors present the most up-to-date and thorough discussions of the subjects that are available anywhere.

Community health workers will quickly see that many recommendations have a direct bearing

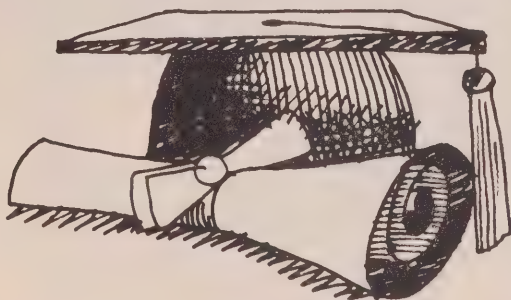
on public programs of education, plaque control and caries prevention activities.

The final chapter provides dental educators and researchers with a listing of 29 research questions that require further investigation and attention.

The Working Group has put a great deal of themselves into this report and it truly is a magnificent effort. It is a treatise on preventive dentistry that is not likely to be surpassed in the near future and one that would serve as a useful reference for all dental practice.

*Reviewed by
Dr. David W. Banting,
associate professor,
Division of Community
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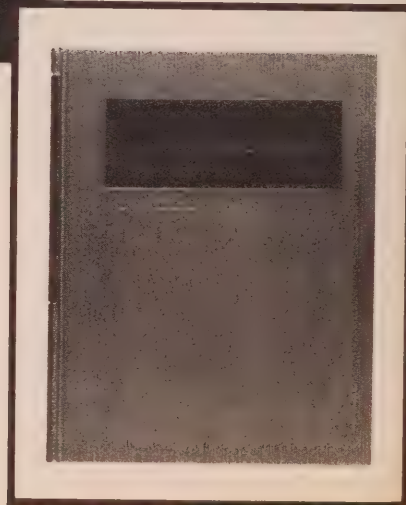
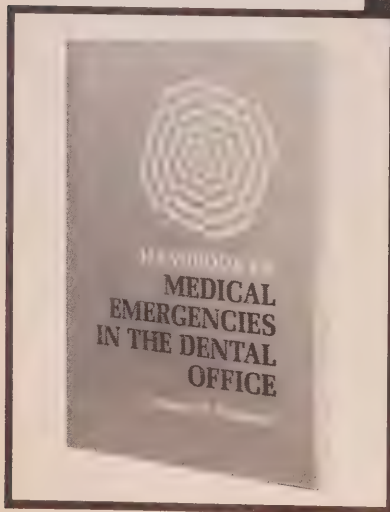
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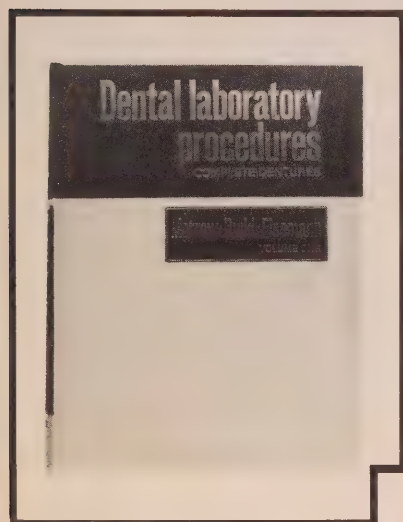
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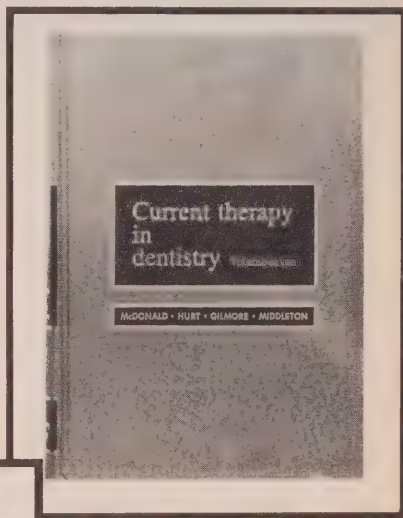


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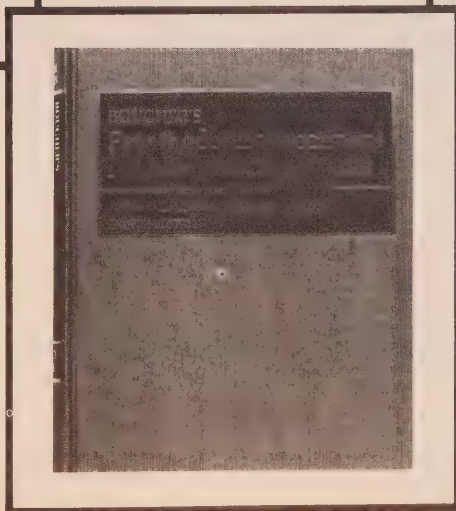


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Un dentiste au Parlement

Le Dr Bud Bradley a deux demeures, pratique deux professions et vit dans deux villes différentes. À la fois dentiste et politicien, il partage son temps entre ses patients et ses électeurs à Dunnville (Ontario) ainsi que ses engagements de membre du Parlement à Ottawa.

Le Dr Bradley en est actuellement à son deuxième mandat comme membre du Parti conservateur au Parlement. Avant sa première élection en mai 1979, il avait fait partie du conseil municipal de Dunnville et avait été vice-président de l'Association progressiste conservatrice de Haldeman-Norfolk.

Durant son absence, reconnaît le Dr Bradley, son associé et son hygiéniste s'occupent de sa pratique, mais au cours de la dernière année, il a réussi à se présenter à son cabinet deux ou trois fois par semaine, y travaillant les

vendredis, samedis et lundis. "Certains patients vous réclament et ne réclament que vous," a-t-il commenté, ajoutant que durant les trois mois d'intersession parlementaire, l'été, il consacre plus de la moitié de son temps de travail à sa pratique.

Pour rentrer à Dunnville d'Ottawa, le Dr Bradley voyage par avion jusqu'à Hamilton puis, de là, accomplit les 120 kilomètres qui lui restent en voiture. Ce voyage est long, confesse le Dr Bradley, mais il le fait volontiers pour rester en contact avec sa communauté.

"La politique et la dentisterie se ressemblent," a déclaré le Dr Bradley. "Les deux exigent que vous vous occupiez constamment des autres. La vie politique n'est peut-être pas aussi assidument remplie que la vie du dentiste, mais les heures sont aussi longues, plus longues même, et les

politiciens ne savent jamais réellement quand leur journée prendra fin."

Le Dr Bradley croit fermement que sa formation de dentiste l'a bien préparé à sa carrière politique.

"Mon éducation professionnelle m'a appris fondamentalement à m'occuper des gens et, reconnaissons-le, on gagne le respect des autres en pratiquant la médecine dentaire. Les dentistes sont dans une situation favorable pour se lancer dans la politique."

Le Dr Bradley a acquis le sens de la discipline dans l'armée, pendant la Deuxième Guerre, alors qu'il était officier d'infanterie. Une fois devenu dentiste à temps complet, il a parfait ce sens de la discipline et c'est pourquoi il peut faire preuve de constance malgré les nombreuses tâches que sa vie de politicien lui impose.

Une journée ordinaire le verra arriver à son bureau, sur la colline parlementaire, à 8h30. Il dépouille alors son courrier, écrit des lettres et se consulte avec son personnel (deux secrétaires et un chercheur adjoint) avant une première réunion à 9h15. De 10h00 à 12h45, il rencontre des membres des comités. Les séances avec les journalistes et les autres fonctions publiques ont généralement lieu à 13h30, juste avant la période des questions qui s'étend de 14h00 à 15h00.

À 15h00, il retourne à son bureau pour s'occuper encore du courrier et, à 16h00, il se présente à des réunions comme celle du Comité des élections du Parti conservateur.

Le mercredi soir, le Dr Bradley est de retour à la Chambre des Communes et, trois fois la semaine, il a des réunions de comités à 9h30, à 15h30 et à 20h00.

En outre, il supervise le travail des secrétaires de deux circonscriptions électorales qui réunissent 77,000 électeurs.

Le Dr Bradley considère que son premier devoir de politicien est de représenter ses électeurs, mais il n'oublie pas qu'il est aussi un émissaire de la profession dentaire auprès du gouvernement.

Le Collège royal des dentistes du Canada

Dernièrement, le Conseil du Collège royal des dentistes du Canada a approuvé deux changements importants:

1. L'établissement d'une nouvelle catégorie d'adhésion au Collège qu'on appellera "Membre". On peut devenir ainsi membre du Collège en réussissant la Partie I de l'examen *ou* en satisfaisant aux conditions d'éligibilité actuelles (voir ci-dessous).
2. Une addition, à la Partie I de l'examen écrit, d'un examen oral clinique d'une heure, à compter de 1981.

Conditions actuelles pour devenir membre

Le Collège offre la qualité de membre sans exiger l'examen aux groupes suivants de spécialistes dentaires:

1. Tous les spécialistes qui ont déjà réussi la Partie I de l'examen pour devenir membres
2. Tous les spécialistes qui détiennent le certificat de portabilité du BNED/CRDC
3. Tous les spécialistes qui, le 1er janvier 1981, détiennent un certificat provincial depuis au moins huit ans.

Pour devenir membre du Collège royal des dentistes du Canada ou pour obtenir des renseignements touchant la partie I de l'examen, veuillez écrire au Dr John E. Speck, registraire, Le Collège royal des dentistes du Canada, 170 St. George Street, Suite 614, Toronto (Ontario) M5R 1T9; tél.: (416) 964-7263.

Les Actualités

\$1,000 en prix pour la recherche supérieure

L'Association Dentaire Canadienne reconnaît que la pratique de la dentisterie est en constante évolution et anticipe encore plus de développements pour le futur comme conséquence des découvertes scientifiques et technologiques. L'Association croit donc qu'une attention soutenue doit être accordée à la recherche, dans les écoles dentaires, tant en sciences de base qu'en sciences cliniques; elle croit qu'elle doit encourager et stimuler la recherche en dentisterie. Les professeurs ainsi que les étudiants gradués et post-gradués retirent beaucoup de bienfaits de la découverte et de l'avancement des connaissances par le fait que leur enseignement ou leur pratique deviennent plus stimulants. Ultimement, la société trouve aussi son profit de l'application des nouvelles connaissances; dans le cas de la dentisterie, la société bénéficie de meilleurs soins bucco-dentaires.

C'est dans cet esprit qu'un groupe de quinze dentistes, en 1920, ramassèrent un fond et s'incorporèrent sous le nom de "Fondation pour la Recherche Dentaire au Canada." Les lettres patentes de cette Fondation indiquent que ses objectifs étaient de servir l'humanité et la profession dentaire en favorisant la recherche pertinente aux maladies et désordres dentaires ou à tout autre sujet relié à la science et la pratique de la dentisterie, le travail devant être fait par des nouveaux gradués.

Ce fond est administré par le Conseil des matériaux et appareils dentaires de l'Association Dentaire Canadienne. Tel que mentionné plus tôt, le concours a pour but d'encourager la recherche dentaire conduite par des étudiants gradués ou post-gradués au Canada. Les inscriptions sont limitées aux candidats qui ont effectué leur recherche dans une université canadienne.

À chaque année, un prix de \$1 000 ainsi qu'une plaque sont remis à l'étudiant qui fournit le meilleur rapport de recherche. Un trophée est également présenté au doyen de l'école ou au directeur du Département où la recherche a été effectuée. Ce trophée est gardé dans cette institution pendant un an.

Chaque inscription est jugée par un groupe de trois arbitres choisis par le Conseil des matériaux et appareils dentaires. Ces arbitres sont généralement choisis parmi les professeurs exerçant dans les universités canadiennes. Le Conseil est parfaitement conscient que les candidats peuvent provenir de niveaux académiques différents (ex.: Ph.D., maîtrise, etc.); c'est pourquoi il s'engage à juger chaque contribution à son mérite, compte tenu du niveau de compétence du candidat.

Lorsque possible, le prix est présen-

té soit au congrès annuel de l'ADC, soit lors des réunions biennales de recherche et d'éducation de l'Association des Facultés Dentaires du Canada. Le rapport gagnant peut aussi être lu lors de l'une ou l'autre de ces réunions.

Le rapport qui doit être soumis consiste en un article dactylographié en une copie. Ce manuscrit doit être basé sur une recherche originale et ne devrait pas dépasser 25 pages. Un article déjà publié ou sous presse est également considéré comme acceptable à condition que le candidat en soit l'auteur principal et que la publication ne date pas de plus de deux ans.

Nous encourageons tous les candidats éligibles à réclamer les formules d'inscription ainsi que les règlements qui sont disponibles au quartier général de l'ADC. Rappelons finalement que le 1er décembre de chaque année constitue la date limite d'application.

Adhésion étudiante à l'ADC

Le pourcentage des étudiants membres de l'Association dentaire canadienne a atteint 93.9 pour l'année 1980-1981, soit un dixième de un pour cent de moins que le pourcentage de 94 atteint l'année précédente.

Des 2,002 étudiants inscrits dans les dix écoles dentaires du Canada, 1,881 se sont joints à l'ADC. Les étudiants membres ont droit à plusieurs avantages, y compris des assurances gratuites lorsqu'ils sont diplômés ainsi qu'une adhésion gratuite à l'ADC pendant les six mois qui suivent la collation des grades.

Le représentant étudiant et le pourcentage des adhésions pour chaque

université sont comme suit: Patti Crosson, Université de la Colombie Britannique (95 pour cent); Harold Elke, Université de l'Alberta (94 pour cent); Joseph Schwann, Université de la Saskatchewan (100 pour cent); Mark Sevier, Université du Manitoba (88 pour cent); Peter Judd, Université de Western Ontario (98 pour cent); Warren Hing, Université de Toronto (99 pour cent); Rita Hurley, Université McGill (98 pour cent); Milena Simicic, Université de Montréal (79 pour cent); Marcelle Thériault, Université Laval (91 pour cent); Graham Usher, Université Dalhousie (97 pour cent).

Éducation permanente

Des listes de cours offerts en éducation permanente sont maintenant disponibles à l'Association dentaire canadienne.

Trois fois l'an, pour tenir les dentistes canadiens et les membres des autres professions au courant des derniers renseignements à ce sujet, le Journal de l'ADC publiera les listes des cours que les institutions de renom donnent en éducation permanente.

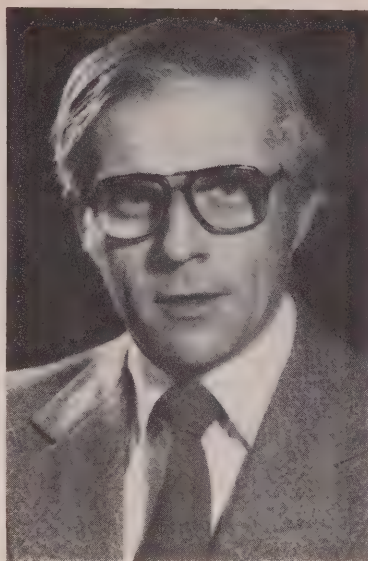
Ne seront pas inclus les programmes qui conduisent à l'obtention d'un diplôme. Cependant, les listes feront état des exposés scientifiques et professionnels donnés durant les congrès.

Pour recevoir les listes en question, veuillez vous adresser à l'Association dentaire canadienne, au 1815, promenade Alta Vista, Ottawa (Ontario) K1G 3Y6.

Provinces

QUEBEC ... Ordre des dentistes du Québec (l'ODQ) new president is Dr. Jean-Guy Landry. Vice president is Dr. Guy Maranda of Quebec City. Executive members include Dr. Charles Goulet, Sherbrooke; Dr. Michel Jahjah, Montreal; and Mr. Jean-Marie Deporcq also of Montreal who is the lay representative on the Administrative Committee.

QUEBEC ... Le nouveau président de l'Ordre des dentistes du Québec est le docteur Jean-Guy Landry. Celui-ci sera entouré du docteur Guy Maranda de Québec, à la vice-présidence, et des membres suivants: les docteurs Charles Goulet de Sherbrooke, Michel Jahjah de Montréal et M. Jean-Marie Deporcq, également de Montréal. Nommé par l'Office des Professions, M. Deporcq représentera le public au sein du Comité administratif.



Dr Guy Maranda

Nomination

Le Dr Guy Maranda, administrateur de l'Association dentaire canadienne, a été nommé examinateur du Collège royal des dentistes du Canada. Il vient également d'être nommé professeur de dentisterie à l'Université Laval. Diplômé de la Faculté des Arts de l'Université d'Ottawa, il a complété avec succès ses études en dentisterie à l'Université de Montréal en 1962. Par la suite, il fit deux années de résidence en chirurgie buccale au Centre médical Gaisinger, à Danville (Pennsylvanie). Auteur de plusieurs publications, le Dr Maranda enseigne à la Faculté dentaire de l'Université Laval depuis 1969.

Victime à identifier

La police de la région métropolitaine de Toronto demande qu'on l'aide à identifier le corps d'une victime trouvé dans un parc de North York (Ontario), le 21 septembre dernier.

Il s'agit d'un mâle, blanc, dans la vingtaine, aux cheveux bruns, avec le nez légèrement recourbé vers la droite, la taille mince, pesant entre 120 et 140 livres, et mesurant de 5'10" à 5'11 1/2".

On ignore la cause du décès.

Des enquêtes ont révélé qu'il pourrait s'agir de Michael Joseph Nugent, âgé de 27 ans, mais la police ne possède aucune preuve concluante à ce sujet.

Un examen fait par le Dr D.W. Stoneman, du département de radiologie à la Faculté dentaire de l'Université de Toronto, a révélé les points suivants:

"La troisième molaire du maxillaire droit a fait son éruption et la formation des racines est terminée, ce qui indique que la victime est âgée d'au moins 21 ans.

"La troisième molaire du maxillaire gauche a été perdue après le décès.

"Il n'y avait aucune dent enclavée,

incluse ou surnuméraire et il n'y avait aucune trace de traitement d'endodontie."

Les dentistes qui auraient des renseignements à fournir sur cette victime sont priés de communiquer avec le sergent préposé au personnel Herbert Trew ou avec le sergent Anthony Warr de l'escouade des homicides, au 590, Jarvis Street, Toronto (Ontario) M4Y 2J5, tél.: (416) 967-2375.

(Voir photos page 85)

Facultés

UNIVERSITÉ LAVAL ... Les nouveaux membres de la Faculté dentaire sont: à la biologie buccale, le Dr Guy Boileau; à la radiologie et au diagnostic, le Dr Jean-Paul Goulet; à la chirurgie, le Dr Guy Maranda; à la dentisterie opérative, le Dr Sylvie Morin; à la recherche, le Dr Christian Mouton; le Dr René-Guy Landry, directeur de clinique, et le Dr Christian Vadeboncoeur, membre du CRSQ.

Le cas des thérapeutes dentaires

"C'est nous qui tenons les dés," déclarait le Dr Brian Brett, directeur général des opérations de la Direction générale des services médicaux (Santé et Bien-être Canada). Il assurait ainsi le corps dentaire que son ministère organiserait des assemblées aux niveaux provinciaux et régionaux afin de discuter du cas des thérapeutes dentaires.

Inspirée par l'Association dentaire canadienne, organisée de concert avec la Direction générale des services médicaux et autorisée par les associations dentaires provinciales, une assemblée d'une durée de six heures s'est tenue le vendredi 12 décembre, à l'édifice R.H. Coates de Tunney's Pasture, à Ottawa.

En 1979, l'Association dentaire canadienne a fait part au Premier Ministre de ses appréhensions touchant le fait que le gouvernement semblait violer la loi en empiétant sur les droits des organismes provinciaux qui octroient les permis, au moment où il établissait un programme complémentaire — celui des thérapeutes dentaires — à l'intention des Inuits et des Indiens inscrits qui sont sur les terres de la Couronne dans les provinces. En effet, la politique de l'ADC veut que tout service ou acte thérapeutique dentaire irrévocable soit le fait d'un dentiste diplômé.

Présidee conjointement par le Dr Brett et le Dr Nick Mancini, administrateur de l'ADC, l'assemblée réunissait: le Dr L.M. Black, adjoint du sous-ministre chargé des Services médicaux, qui a dû partir avant que ne s'achève la première heure afin de s'occuper d'affaires urgentes touchant le budget du ministère; le Dr Gil Utas, président de l'ADC; les Drs Don Williams et Clyde Covit, membres du Comité de gestion; des représentants anciens des associations et organismes dentaires provinciaux qui octroient les permis;

les doyens de trois écoles dentaires; les représentants fédéraux de six régions du Canada ainsi que d'autres membres du personnel attaché au gouvernement fédéral. Parmi ceux-ci se trouvaient: le Dr Keith Davey, directeur de l'école de thérapie dentaire de Fort Smith; un conseiller de l'adjoint du sous-ministre; le Dr Thomas J. Gavrilloff, consultant dentaire fédéral; un conseiller en santé de la Fraternité des Indiens du Canada; et Mlle Cathie Bruyère, représentante de la Fraternité des Indiens du Canada.

En résumant l'assemblée, le Dr Brett, coprésident, a déclaré que la bonne nouvelle la plus importante était qu'il y avait une main-d'œuvre dentaire disponible. Il a exhorté tous les membres présents à l'assemblée à s'engager à travailler ensemble et à oublier le passé. Il s'est montré anxieux de voir les choses commencer à bouger. "Je vous l'assure," a-t-il dit, "c'est à moi d'aller voir mes supérieurs... nous voulons nous engager dans des voies spécifiques." Répondant à une demande du président de l'ADC, le Dr Utas, qui voudrait que la Direction générale des services médicaux assume la responsabilité d'organiser des assemblées aux niveaux provinciaux et régionaux pour régler le cas des thérapeutes dentaires, le directeur général a déclaré: "C'est nous qui tenons les dés."

Plus tôt ce jour-là, le Dr Black, adjoint du sous-ministre, qui avouait que l'assemblée s'imposait depuis longtemps, a dit aux membres de la profession que le gouvernement fédéral est responsable des soins dentaires prodigués aux Indiens et aux Inuits qui habitent les terres de la Couronne et d'autres régions isolées. Le gouvernement, a-t-il déclaré, doit s'occuper du problème aigu de la carie dentaire qui affecte environ 300,000

des gens en question. Il a expliqué que les soins dentaires dispensés par le gouvernement couvrent une gamme étendue de services qui comprennent l'éducation, la prévention, la prophylaxie et les traitements. Ces gens, a-t-il indiqué, ont besoin qu'on leur prodigue des soins de façon continue, et non seulement pendant deux ou trois semaines. De plus, il importe que le coût du programme soit proportionné aux ressources et que le personnel dentaire travaille avec les autres membres de la communauté qui sont affectés à la santé. Bien qu'il soit prêt, a-t-il concédé, à envoyer les thérapeutes dentaires dans des endroits plus éloignés si les exigences mentionnées ci-dessus sont satisfaites, il n'a pas l'intention de fermer l'École de thérapie dentaire.

L'adjoint du sous-ministre a dit qu'il ne s'agissait pas d'un jeu pour lui: si on veut garantir un service à ces gens et quand on le peut, on doit voir à ce que ce service leur soit rendu et qu'ils soient traités. Notre clientèle a de gros problèmes, a-t-il ajouté, c'est pourquoi nous voulons travailler avec vous.

Le Dr Utas a rappelé que le sous-ministre, M. Larry Fry, avait promis à l'Association dentaire canadienne que les projets pour déménager ou agrandir l'École de thérapie dentaire seraient remis au moins jusqu'à ce que l'assemblée ait eu lieu. L'école de thérapie dentaire de Fort Smith doit être réaménagée ailleurs parce que la formation et l'expérience requises ne sont plus disponibles à cet endroit. Les autres emplacements que le gouvernement fédéral considère se trouvent en Colombie Britannique, en Saskatchewan et en Ontario. Avant que ne soit prise aucune décision, a déclaré le Dr Brett, on consultera les autochtones de la province, le gouvernement provincial et

l'association dentaire provinciale. Cependant, le Collège des chirurgiens dentistes de la Colombie Britannique n'a pas été consulté et, pour sa part, le gouvernement de cette province a décliné l'offre de bâtir l'école maintenant, remettant le projet à plus tard. Par ailleurs, le Dr Brett a reconnu que des assemblées n'avaient eu lieu ni en Saskatchewan ni en Ontario.

Menant les effectifs dentaires nationaux et provinciaux, le Dr Utas, président de l'ADC, a expliqué que, bien qu'il y ait eu pénurie de la main-d'oeuvre dentaire quand l'École de thérapie dentaire a ouvert ses portes en 1972, la situation a considérablement changé depuis. Non seulement il y a trop de dentistes, mais il sont mal distribués dans certaines régions. Au Canada, environ 500 nouveaux dentistes sont diplômés chaque année, a-t-on observé. 90 diplômés sont sortis de l'École de thérapie dentaire depuis sa création, dont 30 sont des autochtones. Or tous les Canadiens, a déclaré le Dr Utas, ont droit aux meilleurs soins dentaires qui se prodiguent.

Les associations dentaires du Québec et de l'Ontario se sont engagées sérieusement, assurant la Direction générale des services médicaux qu'elles pouvaient fournir une main-d'oeuvre commune pour les programmes des régions éloignées et qu'elles veraient à accorder une main-d'oeuvre aux autres provinces pour remédier aux problèmes immédiats. Le président de l'Association dentaire de l'Ontario, le Dr Brad Holmes, a voulu s'assurer auprès de la Direction générale des services médicaux qu'elle dialoguerait avec les provinces et que les fonds seraient suffisants pour pouvoir chercher des solutions de rechange. Il a cité un exemple de collaboration efficace: à Kenora, un praticien général dont les services sont pourtant retenus entièrement, va, une journée par semaine, dans la région de White Horse pour soigner les enfants.

Le Dr Chicoine, président et directeur exécutif de l'Association des

chirurgiens dentistes du Québec, a déclaré que son association avait une réserve de 150 dentistes prêts à aller travailler dans des régions éloignées. À une question de Mlle Bruyère qui demandait: "Où sont les dentistes et que se passe-t-il réellement ici?" le Dr Chicoine a répondu: "Nous sommes venus dire au gouvernement fédéral que la province est disposée à s'occuper du problème des autochtones et à faire tout son possible pour satisfaire leurs besoins." Toutefois, a-t-il ajouté, nous voulons un engagement de la part du gouvernement fédéral. "Êtes-vous prêt à dire oui?" a-t-il demandé au président.

Le doyen de l'Université du Manitoba, le Dr A. Schwartz, a laissé entendre qu'il y a eu des erreurs commises par tous: les Services médicaux, l'ADC, les provinces et des dentistes particuliers. Il a cité son expérience à titre de praticien privé, de fonctionnaire à la Direction générale des services médicaux et de doyen d'une école dentaire. Il a prévenu les associations provinciales qu'il faudra sans doute beaucoup de temps avant qu'on adopte un système dentaire complet homogène pour tout le Canada afin de servir les populations autochtones. En outre, il a dit que l'Université du Manitoba serait disposée à s'occuper de certaines régions éloignées.

Le président de l'Association dentaire du Manitoba, le Dr H. Diamond, a déclaré que sa province regardait l'affaire des thérapeutes dentaires comme une mesure temporaire. Désormais, le Manitoba pouvait se charger de la situation avec les dentistes afin de servir toutes ses régions dans les trois ou quatre prochaines années.

À ce propos, le président-élu de l'ADC, le Dr Williams, a fait remarquer que les dentistes à travers le pays peuvent atteindre les objectifs touchant les soins dentaires prodigués à toutes les populations autochtones dans un temps beaucoup plus court que les thérapeutes dentaires. Ceux-ci exigeront dix ans. Or la profession dentaire, d'ajouter le Dr Williams, ne demanderait que

trois ou quatre ans pour adapter les programmes en cours de façon à appuyer le gouvernement fédéral.

Le Dr E.W. Zak, vice-président du Collège des chirurgiens dentistes de la Saskatchewan, a, lui aussi, demandé un engagement de la part du gouvernement fédéral. Si nous l'obtenons, a-t-il dit, nous pencherons de son côté pour l'aider. "Nos diplômés iront dans les régions isolées," a-t-il affirmé.

Le Dr B.P. Martinello, directeur exécutif et registraire de l'Association dentaire de l'Alberta, a déclaré qu'il était prêt à retourner dans sa province pour mettre les choses en mouvement. Cependant, a-t-il dit, "Nous devons agir ensemble, nous voulons des engagements de la part de Santé et Bien-être Canada et nous voulons savoir quels sont ces engagements."

Le Dr L.C. Mandin, président de l'Alberta pour le comité ad hoc affecté aux services dentaires pour les autochtones, a démontré que l'équipe dentaire constitue la meilleure solution. Il a proposé les dentistes autochtones et laissé entendre que le doyen de l'école dentaire est disposé à prêter sa collaboration.

Le Dr T.E. Ramage, président du Collège des chirurgiens dentistes de la Colombie Britannique, a noté qu'en vertu du nouveau Régime dentaire de cette province, le gouvernement provincial assume les dépenses dentaires de ses autochtones et il a demandé qu'on tienne une assemblée des représentants des Indiens avec ceux de la province et du gouvernement fédéral. "Ce que nous avons besoin de savoir," a-t-il dit, "c'est avec qui communiquer."

Le Dr S.G. Bagnall, registraire du Conseil dentaire provincial de la Nouvelle-Écosse, a déclaré à l'assemblée que le programme dentaire pour les enfants s'adresse à toute la population de la province. "Nous n'avons aucune région isolée," a-t-il fait remarquer. "Notre main-d'oeuvre augmente et nous sommes en mesure de nous occuper de tout problème qui

(Voir page 98)

Les Actualités

(suite de la page 97)

surgrair dans la région. Aussi voudrions-nous dire en quoi consiste le problème."

Le registraire de l'Association dentaire de Terre-Neuve, le Dr B.L. Bowden, a expliqué que, bien qu'il y ait 2,300 autochtones à Terre-Neuve, il n'y a pas de réserves. Compte tenu de l'offre faite par le Québec et l'Ontario relativement à la main-d'oeuvre, nous pouvons régler nos problèmes avec quelques organismes supplémentaires, a-t-il déclaré.

Le Dr Messer, de l'Association internationale Grenfell, a fait part du dilemme que rencontre celle-ci en cherchant des dentistes canadiens pour s'occuper du nord de Terre-Neuve et du Labrador. Le Québec et l'Ontario offrant une main-d'oeuvre, il croit personnellement que son association a besoin autant des thérapeutes que des dentistes, mais que s'il devait choisir, il préférerait les dentistes.

Le Dr R.A. Turcotte, représentant du Nouveau-Brunswick auprès du Conseil d'administration de l'ADC, a noté qu'il y a 14 réserves dans sa province et que toutes sont situées à moins de 20 milles d'un dentiste.

Le président de l'Association dentaire de l'Île-du-Prince-Édouard, le Dr O'Connell, a déclaré qu'on offre des soins complets à tous les habitants de l'île. "Si vous voulez que les dentistes aillent travailler dans le Nord," a-t-il observé, "faites-leur une offre à laquelle ils ne pourront résister."

L'École de thérapie dentaire a été créée pour répondre au besoin de fournir, dans le Nord et dans la région mi-nordique, des services dentaires aux Indiens inscrits et aux Inuits habitant dans les réserves et sur les terres de la Couronne ainsi qu'aux résidents des Territoires. Selon le Dr Davey, le programme est une réussite: parce que les thérapeutes habitent les lieux, le programme est normalisé, chacun arrive à s'occuper d'une population, la qualité est assurée, le thérapeute est bien vu

dans sa communauté, l'effort principal porte sur la prévention et la dentisterie pour enfants, le service est mobile, la planification est contrôlée et c'est relativement peu cher. Le Dr Davey croit que les thérapeutes dentaires doivent dépendre de la profession, mais le gouvernement, a-t-il ajouté, peut très bien se charger d'eux.

Six directeurs divisionnaires de la Direction générale des services médicaux ont décrit de façon détaillée leurs champs de responsabilités en rapport avec le programme de thérapie dentaire. Ils ont évoqué plusieurs problèmes dont le transport, l'isolement, le service déficient, les difficultés avec les très petites communautés et les moyens de leur fournir des soins dentaires, les coûts, la pénurie de dentistes, les pauvres conditions de logement et les longues distances à franchir.

Étaient présents à l'assemblée: le Dr L.M. Black, adjoint du sous-ministre à la Direction générale des services médicaux; le Dr H.B. Brett, directeur général des opérations de la Direction générale des services médicaux; le Dr F.H. Hicks, directeur général de Politique, Planification et Évaluation de la Direction générale des services médicaux; le Dr I.C. Inglis, conseiller spécial de l'adjoint du sous-ministre; le Dr A.I. Murdock, directeur suppléant du Service de santé aux autochtones de la Direction générale des services médicaux; le Dr T.J. Gavriloff, consultant dentaire pour le Service de santé aux autochtones; le Dr J.T. Moran, officier dentaire de la région du Pacifique; le Dr J. Andrus, officier dentaire de la région de la Saskatchewan; le Dr D.M. Linklater, officier dentaire de la région de l'Ontario; le Dr W.R. Bedford, officier dentaire de la région du Manitoba; le Dr K.W. Davey, directeur de l'École de thérapie dentaire; le Dr J. Coombs, consultant médical en chef de la Fraternité des Indiens du Canada; le Dr J. Messer, directeur des Services dentaires de l'Association internationale Grenfell; le Dr A.R. Ten

Cate, doyen de la Faculté de dentisterie de l'Université de Toronto; le Dr A. Schwartz, doyen de la Faculté de dentisterie de l'Université du Manitoba; le Dr N.A. Mancini, président du Conseil d'administration de l'ADC; le Dr G.E. Utas, président de l'ADC; le Dr D.E. Williams, président-élu de l'ADC; le Dr C. Covit, président sortant de l'ADC; le Brigadier général, W.R. Thompson, directeur général du Service dentaire des Forces canadiennes et membre du Conseil exécutif de l'ADC; M. H.E. Drouin, directeur général de l'ADC; Mlle Ann Hammell, directrice des communications de l'ADC; le Dr G.S. Beagrie, doyen de l'Université de la Colombie Britannique; le Dr T.E. Ramage, président du Collège des chirurgiens dentistes de la Colombie Britannique; le Dr L.G. Mandin, président du comité ad hoc du Service dentaire pour les autochtones; le Dr B.P. Martinello, directeur exécutif et registraire de l'Association dentaire de l'Alberta; le Dr E.W. Zak, vice-président du Collège des chirurgiens dentistes de la Saskatchewan; le Dr H. Diamond, président de l'Association dentaire du Manitoba; le Dr B.W. Holmes, président de l'Association dentaire de l'Ontario; le Dr E.J. Fox, registraire adjoint du Collège royal des chirurgiens dentistes de l'Ontario; le Dr C. Chicoine, président et directeur exécutif de l'Association des chirurgiens dentistes du Québec; Me André Tremblay, de l'Association des chirurgiens dentistes du Québec; le Dr J.G. Landry, président de l'Ordre des dentistes du Québec; le Dr R.A. Turcotte, représentant du Nouveau-Brunswick auprès du Conseil d'administration de l'ADC; M. D.V. Pamenter, directeur exécutif de l'Association dentaire de la Nouvelle-Écosse; le Dr S.G. Bagnall, registraire du Conseil dentaire provincial de la Nouvelle-Écosse; le Dr D. O'Connell, président de l'Association dentaire de l'Île-du-Prince-Édouard; le Dr B.L. Bowden, registraire de l'Association dentaire de Terre-Neuve.

Résumé des améliorations pour 1981

Un certain nombre d'améliorations importantes ont été apportées à votre régime d'assurance à effet du 1^{er} janvier 1981, entre autres, extension de certaines garanties à des risques jusqu'ici exclus, assouplissement des conditions du contrat et augmentation des montants maximums.

Votre relevé de prime vous indique le montant actuel de votre garantie. Nous vous recommandons de le réétudier en fonction de tous éventuels changements ayant pu intervenir dans vos besoins et de le comparer aux nouveaux montants maximums offerts pour certaines garanties.

Vous trouverez ci-dessous un aperçu des améliorations apportées à votre régime pour 1981.

Assurance-vie de base

Les primes de l'assurance-vie de base ont été réduites de 10% le 1^{er} janvier 1980. Cette réduction est maintenue pour 1981.

Assurance-vie des personnes à charge

La garantie des enfants passe de \$2 000 ou \$4 000 à \$5 000 par enfant. La prime annuelle sera de \$2,30 par famille.

Décès et mutilation accidentels

La garantie maximum passe de \$100 000 à \$150 000 sans modification des taux de prime.

Assurance Invalidité

L'indemnité maximum est portée à \$3 500 par mois. Elle continue à être limitée à 100% de votre revenu avant impôts avant l'invalidité.

Frais généraux

Les dispositions régissant l'invalidité partielle ont été assouplies. Antérieurement, vous n'aviez droit à l'indemnité qu'à condition de subir une réduction d'au moins 50% de votre temps de travail. Désormais, l'indemnité sera proportionnelle aux revenus effectivement perdus, c'est-à-dire que si vos revenus baissent de 20%, vous recevrez une indemnité de 20%. Les taux de prime demeurent inchangés.

Responsabilité Civile non professionnelle

La garantie "indemnisation volontaire des dommages matériels" est portée de \$1 000 à \$2 000. Elle couvre les dommages occasionnés aux biens des tiers dans les cas où vous pourriez ne pas être tenu légalement responsable. La prime de l'assurance de la Responsabilité Civile non professionnelle est augmentée de \$2,75 par an.

Assurance du contenu

La garantie est étendue, sans augmentation de la prime, aux dommages occasionnés par les inondations. Comme cette assurance comprend désormais une garantie de \$500 000 en Responsabilité Civile non professionnelle, les primes sont augmentées de \$2,75 par an. La prime totale sera arrondie au plus proche dollar.

Assurance des honoraires

La garantie est étendue aux pertes de revenu découlant de l'interdiction par les autorités civiles (police, pompiers, etc.) d'accès à votre cabinet en raison d'un risque couvert (incendie ou explosion par exemple) même si vos propres locaux n'ont pas subi de dommages. Cette garantie fait l'objet d'une période d'attente de trois jours. Il n'y a pas d'augmentation de la prime.

Commencez d'abord les avantages que vous offre le régime de votre association. Vous y gagnerez.



**Le régime
d'assurance
des dentistes
du Canada**

Service central de renseignements

Pour une réponse rapide et personnelle à toute question dans le domaine des assurances, appelez le Service central de renseignements du CDSPI au (416) 961.71.17. Veuillez ne pas appeler d'autre numéro. Le CDSPI paiera les frais d'appel.

1981 Plan Improvements

Effective January 1, 1981, a number of important improvements have been made in your insurance program. Some plans have been extended to add protection against hazards previously not covered. In others, policy provisions have been liberalized. In other cases, the maximum amount of insurance available has been increased.

We recommend you review your coverage in the light of any change in your needs and compare it with the new maximums available under some plans.

Here is a summary of the improvements effective January 1, 1981:

1. Basic Life Insurance

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The limited clinical results are encouraging and justify a more extensive investigation of the Ag - Cu - Ge base alloys in dental prosthesis applications.

Silver - copper - germanium alloys

(POTENTIAL FOR ORAL RESTORATIONS)

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Gold in its alloyed form is still the most commonly used metal in dentistry for oral restorations. The gold content in noble metal alloys used in dentistry varies considerably, and for the more commonly used

dental casting alloys in the range 60-75 per cent (all concentrations in weight per cent), which is usually sufficient to provide the required or desired resistance of the restoration to tarnish in the mouth. In the past several years, the price of gold has risen dramatically, and this has spurred efforts to develop non-noble or base metal alloys (noble as used herein denotes gold, palladium and platinum) for dental applications, or alloys containing lower contents of noble metals. Noble metal alloys containing 40-50 per cent gold are now available for use in dentistry as casting alloys; however, the decrease in gold content has been at the expense of tarnish resistance. The base metal alloys now available for dental use generally provide acceptable tarnish resistance (e.g., nickel-chromium alloys); however, the relatively poor workability (i.e., difficulty in fabrication) of these alloys has considerably restricted their application as oral restorative materials.

In this paper, the properties of silver-copper-germanium (Ag-Cu-Ge) alloys, and (Ag-Cu-Ge) base alloys

ABSTRACT

The addition of small amounts of Ge (1-2 percent) to eutectic Ag-Cu alloys virtually eliminates oxidation of the melt during air melting and casting, thereby improving the castability of the alloys significantly. The results of a clinical investigation of Ag-Cu-Ge alloy and Ag-Cu-Ge base alloys containing moderate amounts of Sn, Au, or Pd, in which single crowns and fixed partial bridges of the alloys were placed as temporary restorations are reported. All of the experimental alloys showed good to excellent castability and workability, and the Ag-Cu-Ge-Sn alloy showed no significant tarnish after one year of exposure to an oral environment.

containing some noble metals (Au, Pd) and tin (Sn) are described. The results of a limited clinical investigation of the experimental alloys are presented and discussed.

EFFECT OF GE IN EUTECTIC AG-CU ALLOYS

(1) Castability

The castability of an alloy, i.e., the ability to reproduce accurately in a casting all the details of the pattern, is dependent on three melt properties: high fluidity, absence of oxidation products, and a low wetting tendency. A characteristic property of eutectic alloys is high fluidity, and thus the first requirement for good castability is provided in the eutectic Ag-Cu alloy (72%Ag-28%Cu). The addition of small amounts of Ge to the eutectic Ag-Cu alloy provides the remaining two requirements for good castability, i.e., there is virtually no oxidation of the alloy melt in air, and it has very little tendency to wet (non-metallic) surfaces. The beneficial effects of Ge are noticeable at levels as low as 0.1 per cent; however, for optimum casting performance a Ge content in the range 1-1.5 per cent is recommended.

The protection against oxidation of Ag-Cu-Ge alloy melts results from the preferred oxidation of Ge (in place of Cu), and the sublimation of the germanium oxide (GeO) as it forms. The sublimation temperature of GeO is given¹ as 710°C, i.e., solid GeO transforms directly to its gaseous state at one atmosphere pressure, and the sublimation pressure increases exponentially with temperature. The melting point of eutectic Ag-Cu alloy is 779°C (c.f. Ag-Cu phase diagram²), which is considerably higher than the sublimation temperature of GeO. Thus any atmospheric oxygen penetrating the Ge-containing alloy melt is immediately and vigorously expelled as gaseous GeO (evident from the copious white fumes of GeO emanating from a superheated alloy melt). The gaseous GeO also restricts the amount of air that can reach the melt surface. The result is a virtually oxide-free casting when Ge is present, which is in contrast to the black oxide surface that invariably develops when air melting Ag-Cu alloys containing no Ge.

Melts of Ag-Cu-Ge alloys have high surface tensions, which is evident in the way small melt volumes readily ball or spheroidize. The tendency for liquids to wet surfaces decreases with increasing surface and interfacial tension. The decrease in wetting tendency (wettability) enhances the flow of the metal at the metal/mold interface and thus increases castability. The high surface or interfacial tension of Ag-Cu-Ge alloy melts is due in

part to the absence of surface oxides and the surrounding envelope of GeO gas.

(2) Workability and Hardness

The Ag-Cu eutectic alloy is known for its high strength and ductility,³ and these properties combine to impart to the alloy a high degree of workability. The hardness of Ag-Cu eutectic alloy is strongly dependent on microstructure, the hardness increasing with fineness of the lamellar microstructure. The fineness of the lamellar microstructure increases with the solidification rate of the casting (a characteristic behaviour of eutectic alloys). The addition of Ge to eutectic Ag-Cu alloy has little effect on microstructure or hardness of the casting for Ge contents less than about two per cent beyond which the lamellar microstructure tends to coarsen and break down irrespective of the solidification rate, resulting in a corresponding decrease in hardness.

The composition, microhardness values, relative tarnish resistance, and colours of several Ag-Cu-Ge alloys are given in **Table 1**. The alloy compositions represent original formulations as prepared from high purity metals (99.99 per cent purity for the noble metals, silver and germanium, 99.9 per cent purity for copper). To facilitate identification and discussion of the alloys, the eutectic Ag-Cu alloy containing only Ge (one to two per cent) will be referred to as the Ag-Cu-Ge base alloy, or simply base alloy (Y-10 in **Table 1**). The microhardness values given in **Table 1** are for rapidly solidified castings (corresponding to casting several grams into a room temperature mould), and therefore represent maximum or near-maximum values. Each value is the average of at least six determinations, for which the variation (standard deviation) is in the range of ($\pm$ three — 10 per cent). The relatively large variation ($\pm$ 10 per cent) is due to the sensitivity of the microstructure (and the hardness) on the solidification rate, which varies across the section of the casting. Slower solidification rates decrease the hardness of all alloys except the base alloy containing Sn(Y-14), e.g., the hardness of Y-10 decreases to about 100 Vickers or lower when cast into a mould preheated to about 200°C. The addition of Au or Pd to the base alloy decreases the hardness (c.f. Alloy Y-15, Y-20, Y-25) and is associated with a breakdown and coarsening of the lamellar eutectic structure; the addition of Sn is an exception. The alloy Y-14, which has 12.3 per cent Sn, has a hardness of 240 Vickers. When the Sn content is increased, the dependency of hardness on microstructure decreases. However, the addition of Sn decreases the ductility of the alloy, and beyond about

15 per cent Sn the low workability of the alloy makes it unsuitable for prosthesis applications.

The base alloy has a light gold colour, which becomes progressively whiter or silvery as the Ge and Sn increases.

(3) Tarnish resistance

An accelerated tarnish test, which consisted of brushing an aqueous solution of sodium sulphide-sodium chloride (3%Na₂S-1%NaCl) over a polished section of the alloy, was used to determine the relative tarnish resistance of the various alloys. In Table 1, the relative tarnish resistance is indicated by a number on a scale of one to five with the alloy showing the highest resistance to tarnishing arbitrarily assigned a number of five. Although the tarnish resistance values are not absolute and so cannot be compared against gold, they are useful in indicating the composition-microstructure effect on tarnish behaviour for the experimental alloys investigated. The addition of Ge does not prevent tarnishing of Ag-Cu alloys when exposed to the sulphide ion. However, the Ag-Cu-Ge base alloy did show a noticeably higher resistance to tarnishing than the eutectic Ag-Cu alloy without Ge, both in severity and rate of tarnishing. The tarnish resistance is microstructure sensitive, increasing with fineness of the lamellar microstructure. The addition of Au or Pd to the base alloy decreases rather than increases the tarnish resistance, and this is associated with the coarsening of the microstructure which promotes galvanic corrosion processes. The base alloy containing Sn (Y-14) showed the best resistance to tarnish in the accelerated test.

RESULTS OF CLINICAL TESTS

Single crowns and fixed partial bridges of alloys Y-10, Y-14, Y-15, Y-18, and Y-25 were placed (as temporary restorations for periods up to one year) in patients to determine the suitability of the alloys as dental restorative materials. In general, all of the alloys tested exhibited good to excellent castability and workability in the preparation of the crowns and partial bridges. Figure 1 shows several Y-10 crowns *in situ* 31 weeks after placement. Good retention and accuracy of margins was obtained on fitting the crowns. Although the base alloy has only a moderate hardness (195 Vickers), there was little or no wear of the occlusal surfaces evident after one year of service. The crowns in Figure 1 show little or no tarnish on the areas well exposed and normally self-cleansing as well as easily reached by routine brushing. Tarnish has formed interproximally in recesses and at the cervical regions, where little or no brushing occurred

and where plaque accumulation is most common. However, there was no noticeable inflammation of the soft tissue adjacent to the restoration. The tarnish was completely removed by light polishing action, suggesting that it may not be a corrosion product of the alloy, but a deposit of biological origin and associated staining (Fig. 6).

Table 1
The composition, hardness, relative tarnish resistance, and colour of experimental alloy castings

Alloy	Composition weight (%)		Hardness Vickers	Relative tarnish resistance	Colour
Y-10	Silver	71.1	195	2	White gold
	Copper	27.6			
	Germanium	1.3			
		100.0			
Y-14	Silver	61.9	240	5	Silver
	Copper	24.1			
	Tin	12.3			
	Germanium	1.7			
		100.0			
Y-15	Silver	67.7	170	2	White gold
	Copper	26.3			
	Gold	4.8			
	Germanium	1.2			
		100.0			
Y-18	Silver	64.7	185	3	Light gold
	Copper	25.2			
	Tin	6.2			
	Gold	2.4			
	Germanium	1.5			
		100.0			
Y-20	Silver	67.6	130	2	White gold
	Copper	26.2			
	Palladium	5.0			
	Germanium	1.2			
		100.0			
Y-25	Silver	63.9	145	2	White gold
	Copper	24.9			
	Gold	9.9			
	Germanium	1.3			
		100.0			



Fig. 1. Provisional acrylic veneered restorations of Y-10 alloy 31 weeks after placement. Note presence of tarnishing interproximally and at the cervical region.



Fig. 2. Crowns of a commercial gold alloy on patient's right molars and Y-15 alloys on patient's left molars four weeks after placement.



Fig. 3. Crowns of Y-14 and Y-15 removed after one year from same patient as in Figure 2. Note considerably more tarnishing of Y-15 alloy.



Fig. 4. Crown of Y-25 alloy in service for 26 weeks. Note tarnish in recess but little to no tarnish on areas accessible to routine brushing.



Fig. 5. Existing bridge of commercial gold alloy in mouth of same patient as in Figure 4. Note interproximal and cervical tarnishing anterior to that of Y-25 alloy crown.



Fig. 6. Appearance of same crown as in Figure 4 after light polishing with phylactic paste.



Fig. 7A. Provisional bridge made of Y-10 alloy veneered with acrylic resin. Immediately after insertion.



Fig. 7B. Provisional crowns of Y-10 alloy veneered with acrylic resin. Same patient as in Fig. 7A and Fig. 1.



Fig. 8. Metal occlusal surfaces of Y-10 alloy as part of a removable partial denture.

“The fineness of the microstructure increases with solidification rate of the casting.”

In several cases, crowns of experimental alloys and a commercial gold alloy were placed in the same mouth for comparison. Such a test is shown in **Figure 2**, four weeks after placing the crowns; the crowns on the patient's two right molars were made from a high quality commercial gold alloy and the crowns on the left molars were made from alloys Y-14 and Y-15. **Figure 3** shows the Y-14 and Y-15 crowns removed after one year of service. It is evident that the Y-15 crown has tarnished considerably in the cervical regions, while the Y-15 alloy crown shows little or no significant tarnishing. The gold alloy crowns also showed no significant tarnishing and were not removed. The clinical tarnish results are consistent with the accelerated tarnish test results discussed earlier, i.e., the base alloy containing SN (Y-14) has the highest tarnish resistance and appears to be quite adequate for use in an oral environment. The colour, however, is more silvery than gold.

Figure 4 shows a crown of Y-25 and **Figure 5**, an existing bridge of a commercial gold alloy, respectively, in the same patient (heavy tobacco user) for a comparative test. After six months, both the Y-25 and the gold alloy show tarnish and nicotine stains in the recessed areas, and particularly near the gingival third of the restorations. It is evident that for this patient the use of

gold alloy does not assure tarnish-free restorations. Light polishing during routine prophylaxis easily removed all traces of the tarnish (Fig. 6).

Some of the restorations were veneered with acrylic, e.g., the acrylic-coated Y-10 alloy crown shown in Figures 7A and 7B. In all cases where acrylic was applied, a sound and durable bond formed between the metal and the acrylic. Figure 8 shows another application for Ag-Cu-Ge alloys. In this case Y-10 alloy was used instead of gold for the occlusal surfaces of a removeable partial denture of a patient with a severe bruxing habit. The tarnish and wear resistance were very acceptable after one year of service.

The absence of any inflammation or indication of sensitivity of the tissue adjacent to the restorations (some of which were in place up to one year) indicates that the experimental alloys are as innocuous as most of the noble metal alloys currently used for restorations. The base alloy used in this investigation is the Ag-Cu eutectic alloy (72%Ag-28%Cu) containing about 1%Ge. The Ag-Cu eutectic alloy is also the dispersion phase in the new, dispersion-type amalgam first described by one of the authors⁴ and now widely used, and on which much positive clinical data have been reported by numerous investigators.^{5,6} The dispersion-type amalgam, and thus the Ag-Cu eutectic alloy which is present in the amalgam in its original state as a dispersion phase, have been subjected to animal studies and found to be biocompatible.⁷ The incorporation of about 1% Ge, which is a metalloid like Si and is similar in its alloying behaviour, would not be expected to alter the general innocuous character of the alloy.

SUMMARY

The addition of approximately 1% Ge to eutectic Ag-Cu alloys virtually eliminates air oxidation of the melts and thereby considerably enhances the castability of the alloy. The hardness and the tarnish resistance of the Ag-Cu-Ge base alloy are both microstructure dependent, increasing with the fineness of the lamellar microstructure. The fineness of the microstructure increases with solidification rate of the casting. The addition of small to moderate amounts of precious metals (Au, Pd) to the Ag-Cu-Ge base alloy decreases both hardness and tarnish resistance of the alloy casting, and this is associated with the increase in the coarseness of the microstructure. The addition of Sn to the base alloy increases both hardness and tarnish resistance of the casting.

The Ag-Cu-Ge base alloy and base alloys containing Au, Pd, and Sn were clinically tested for performance

as oral restoration materials. Single crowns and fixed partial bridges of the experimental alloys were cast and fabricated and then placed to serve as temporary restorations. All the experimental alloys showed good to excellent castability and workability. The experimental crowns were fitted with exceptionally good retention and accuracy of the margins. All the experimental alloys showed little or no tarnishing in areas where brushing was applied; however, in all but the Sn-containing base alloy, tarnishing occurred in crown recesses and near the cervical regions where brushing was minimal or absent. The Ag-Cu-Ge base alloy containing 12.3% Sn showed little or no tarnish even after one year of service.

The limited clinical results are encouraging and justify a more extensive investigation of the Ag-Cu-Ge base alloys in dental prosthesis applications. An investigation on further improving the tarnish resistance of the alloys by the application of a gold alloy coating, as well as a more comprehensive bio-compatibility study, have now been initiated and will be reported in a forthcoming publication.

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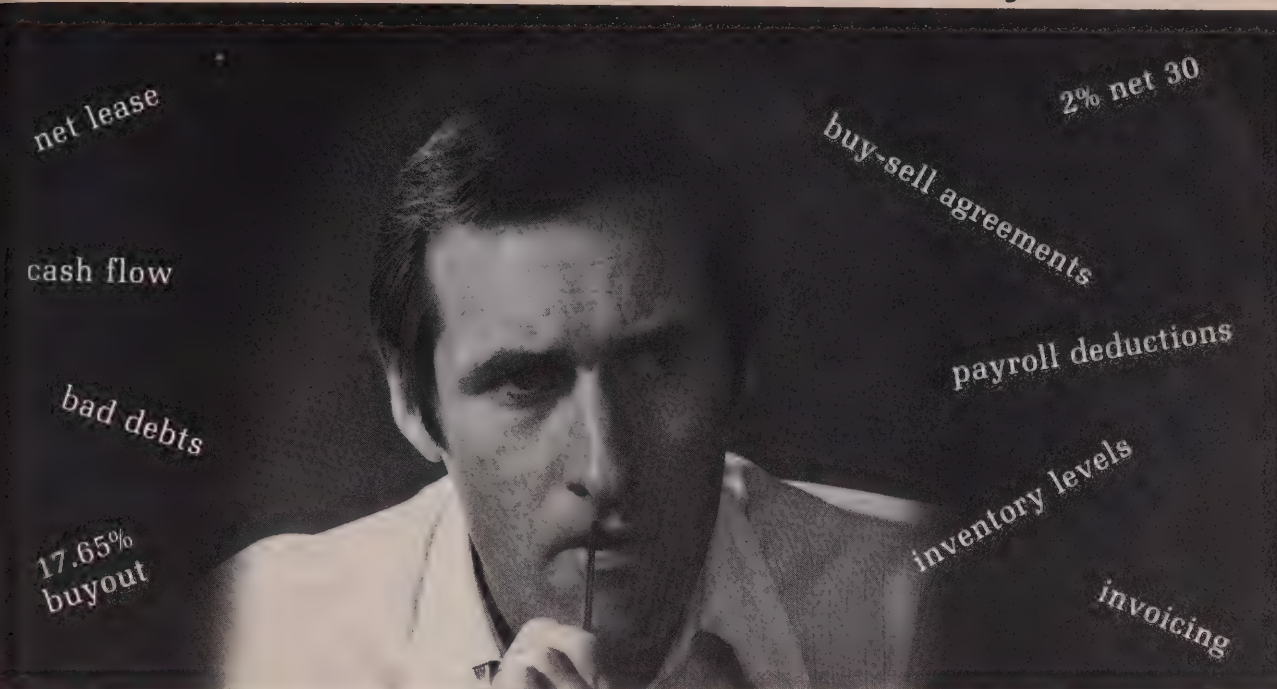
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Multiple idiopathic root resorption

(case report)

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Multiple idiopathic external root resorption is not a common condition. A number of cases have been reported in the literature.¹⁻³ and two of these reports have involved resorption at the cemento-enamel junction;^{1,2} the other case involved only anterior incisor teeth.³ We present a case which shows multiple idiopathic apical resorption. The microscopic appearance of two extracted teeth showed an attempt at repair by a cellular mineralized material. The possibility of a familial history in our patient is discussed.

CASE REPORT

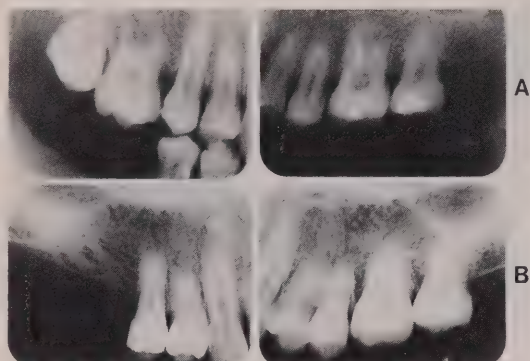
A 27-year-old white male patient presented at Newcastle Dental Hospital Conservation Department complaining of pain in the upper right and lower left quad-

rants. Radiographic examination at this time revealed apical root resorption of 1.7, 1.6, 1.5, 1.4, 2.4, 2.5, 2.6, 2.7 and 3.7 (**Fig 1A**). There was no history of trauma or orthodontic treatment. Restorative treatment was carried out on teeth 1.7 and 1.6 but with no relief of symptoms. Examination of the oral soft tissues showed typical white striae of lichen planus on the right buccal mucosa; no other abnormalities were found. At this time, serum chemistry revealed normal values for serum calcium, phosphate and alkaline phosphatase.

In view of continued symptoms from 1.7 and 1.6, it was decided to extract these teeth. Post extraction healing was uneventful. Decalcified sections of these teeth showed a peculiar cellular cementum "repair" at the markedly resorbed apices of both teeth (**Fig 2**). The patient was seen again three months later and further radiographs revealed continuing apical resorption, especially of teeth 1.4 and 1.5 (**Fig 1b**). At this time the patient admitted that both his parents had lost their teeth before 30 years of age. Since no records are available, this observation must be treated with great circumspection. Serum chemistry at this time again showed normal values for calcium, phosphate and alkaline phosphatase. At his last visit, the patient complained of mild pain from teeth 1.4 and 1.5.

ABSTRACT

A case of multiple root resorption is presented. The patient had a normal serum chemistry and no predisposing factor could be found in the history. The cause of this condition is unknown and there appears to be no specific treatment. The microscopic appearance of two extracted teeth showed an attempt at apparent "repair" of the resorbed area with cellular cementum.



Figs. 1A and 1B. The upper half (1A) shows marked root resorption of maxillary right molars and left premolars. The lower half (1B) shows the situation three months later. Note the rapid progression of resorption, especially on the right premolar teeth.

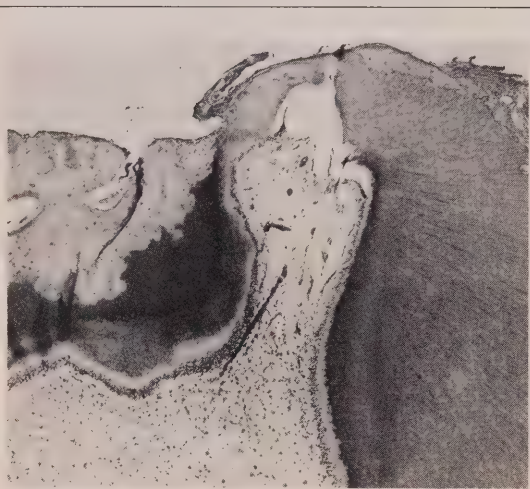


Fig. 2. This shows the apical portion of one of the extracted maxillary molars. There is extensive cellular cementum attached to the dentine. (Haematoxylin and Eosin. Original magnification X33).

DISCUSSION

Although Massler and Malone,⁴ from their study of over 13,000 teeth, concluded that a mild degree of apical resorption was probably normal, multiple molar and premolar apical resorption is decidedly unusual. Recent cases of multiple idiopathic resorption, one with scanning electron microscopy, concentrated on resorption at the cemento-enamel junction.¹⁻³ All these cases, and the case of Whitehead³ involving only incisor teeth, had normal blood chemistry; this is also true of our patient. No mention is made of any histologic evidence of repair

in two of the cases.^{2,3} Kerr, Courtney and Burkes¹ mentioned a spicule of osteocementum in one of their cases. In our patient, both extracted teeth show cellular material attached to markedly resorbed dentine. This cellular material, which was interpreted by us as cellular cementum, appears to be an "attempt at repair".

Resorption is frequently seen with replanted or transplanted teeth,⁵ and this may be due to an alteration in the cementum. "Repair" by cellular cementum does not seem to be a feature of these cases, although pulpal obliteration may be seen.⁵ The causes of multiple permanent root resorption have been cited by Rygh⁶ as: (i) increase of pressure, (ii) tissue damage in the periodontal membrane, (iii) increased blood supply, (iv) infection, and (v) individual predisposition (systemic diseases, endocrine disturbances). None of these seem applicable to our patient. In addition, there is a somewhat tenuous possibility of a familial history. The patient presented here is being followed up, but at this stage there seems to be no treatment which can be offered. Devitalization of isolated teeth showing apical root resorption has been suggested as a possible treatment. This procedure is being considered, but it would involve root canal therapy on 12 or 13 teeth, with no guarantee of success.

CONCLUSION

A case of rapidly progressing idiopathic apical root resorption of multiple permanent teeth has been presented. The patient has a normal serum chemistry. Two extracted teeth showed extensive areas of cellular cementum "repair". Previous cases of idiopathic root resorption have not stressed the presence of this cellular cementum. It is hoped by this report to encourage further studies of similar cases, to determine whether there is any underlying cause for this condition.

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Maxillofacial prosthodontics

(A preliminary impression technique for restricted oral access)

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Saskatoon, Saskatchewan

Patients with constriction and contractures of orofacial musculature present a challenge to the prosthodontist in securing impressions for intraoral prostheses. Plastic stock trays for irreversible hydro-colloid and metal stock trays for impression compound require considerable ingenuity for successful modification. Frequently, this armamentarium is almost impossible to adapt, particularly when the tray must be rotated as much as 90 degrees to its intraoral orientation in order to be inserted. A selection of custom acrylic impression trays fabricated for previous patients may often be modified effectively.¹ Sectional impressions with compound have also been advocated.²

Highly filled elastomeric materials*† can be utilized for the preliminary impression procedure when there is limited oral access such as in burn patients (Fig 1). The material is mixed according to the manufacturer's directions (Fig 2), manipulated to approximate the arch size and shape (Fig 3), and then moulded in the mouth to record the maxillary and mandible arches. The material is manipulated with the fingers into the vestibular areas, and may be border moulded similar to any other impression material (Fig 4). The mass of elastomer must be supported with the fingers until initial set has occurred. The impression may be deformed if necessary for

removal from the mouth, and will subsequently recover its original conformation (Figs. 5 and 6).

A stone cast is then produced by conventional procedures. The technique is rapid; no tray is required. A custom tray for the final impression is fabricated subsequently from the preliminary study cast. The highly filled elastomeric material has sufficient body to distend moveable tissues without discomfort. It will not penetrate small intra-oral defects which may accompany incomplete surgical repair, thus the problem of exuding impression material into these sites, with resultant entrapment, is eliminated.

(figures overleaf)

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*Optosil Preliminary Impressive Material, Unitek Corporation, Monrovia, California 91016.

†Imput Body Silicone Impression Material, Buffalo Dental Manufacturing Co., Inc. Brooklyn, New York 11207.



Fig. 3. Patient with restricted oral access.



Fig. 4. Border molding.

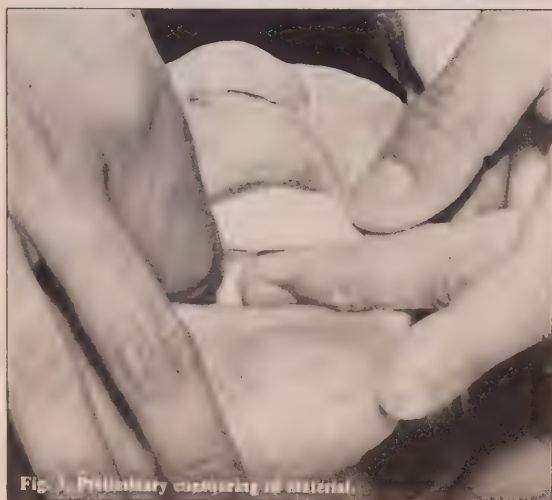
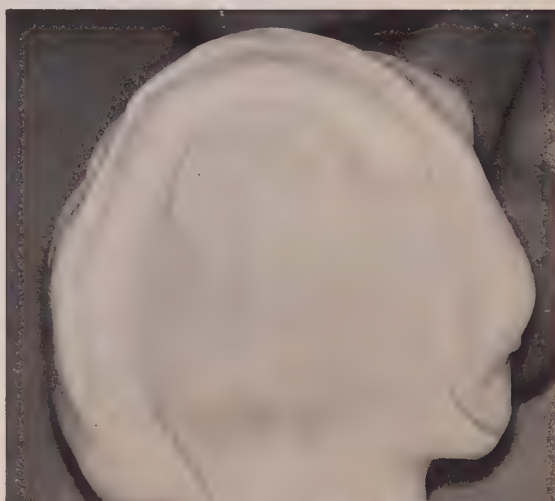
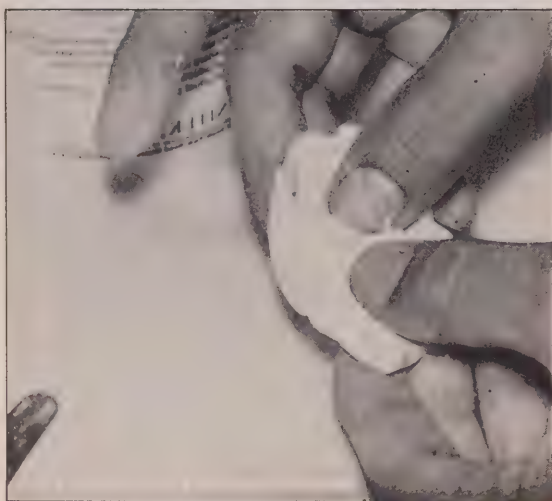


Fig. 5. Preliminary capturing of material.

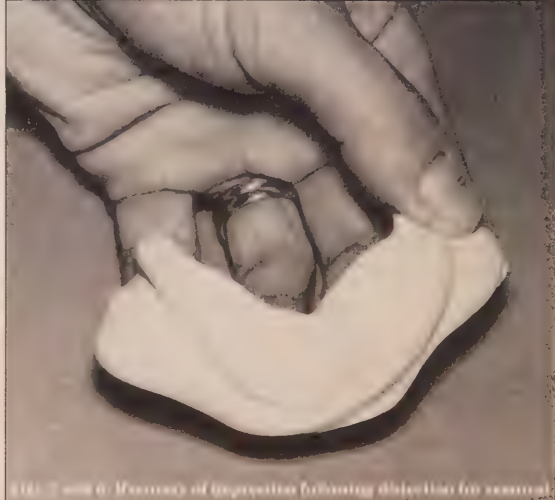


Fig. 6. Accuracy of impression following objection for removal.

Restoration of abutment teeth for an existing removable partial denture

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The restoration of an abutment tooth for an existing removable partial denture is often necessary when the abutment becomes involved with caries, a failing restoration or fracture. Initially, the decision must be made to remake the partial denture or restore the abutment tooth to fit the existing partial denture. If the more conservative treatment of preserving the prosthesis and restoring the abutment tooth is chosen, there are generally three different methods that can be employed for cast restorations: the direct method, direct-indirect method and the indirect method. More recently, amalgam restorations have been suggested for restoring abutment teeth.

DIRECT METHOD

The direct method of restoring an abutment tooth for an existing removable partial denture involves preparation of the abutment tooth and the intra-oral fabrication of a pattern which will be cast to give the desired crown form. This method eliminates the need for impressions of the prepared tooth and subsequent laboratory procedures. Drawbacks of this method include the difficulty in accurately recording the preparation's margins and other associated problems of fabricating a pattern intra-orally. Ewing's¹ direct method obtained this pattern by using a soft metal crown form fitted over the prepared abutment tooth. The inside was filled with inlay wax to record the exact preparation contours and the inlay wax

was also added to the outside to obtain proper crown form and an exact fit to the existing partial denture. Killebrew² employs a different technique that initially involves taking an impression of the entire arch, including the abutment tooth to be restored. The tooth is prepared and cold cure acrylic is placed in the impression of the abutment tooth; this is now seated over the entire arch. In this manner an acrylic pattern of the desired crown form is constructed and ready to be cast.

INDIRECT-DIRECT METHOD

The indirect-direct method is similar to the direct method. The difference is that an impression is taken of the prepared tooth so the pattern to be cast can be accurately finished outside the mouth on a die. This technique overcomes the direct method's problems of obtaining accurate marginal adaptation of the pattern intra-orally. It has been modified by several authors³⁻⁵ who employ different materials as well as different procedural steps. The direct method of Killebrew can be followed closely. After an impression of the preparation is taken, the acrylic crown's margins can be trimmed back 1-2 mm and formed and finished with inlay wax on the constructed die.

THE INDIRECT METHOD

The indirect method records the relationship between the prepared abutment tooth and the existing prosthesis. The exact relationship is recorded and transferred extra-

orally where the abutment crown pattern is constructed in the proper relation to the existing partial and the opposing arch. Hill's⁶ technique employs a full arch impression over the seated partial denture with the prepared abutment tooth. This impression should provide the relationship as well as an exact impression of the prepared abutment tooth on which the pattern for the crown is constructed. Another method, by Steinert,⁷ relates the abutment tooth to the partial by attaching an acrylic coping to the metal framework of the partial intraorally. After this is accomplished, an impression is taken of the arch with the partial in place. The advantages of these indirect methods are that the desired occlusal relationship can be developed outside of the mouth and adaptation of the prosthesis to the crown can be made on the working model before trial in the mouth.

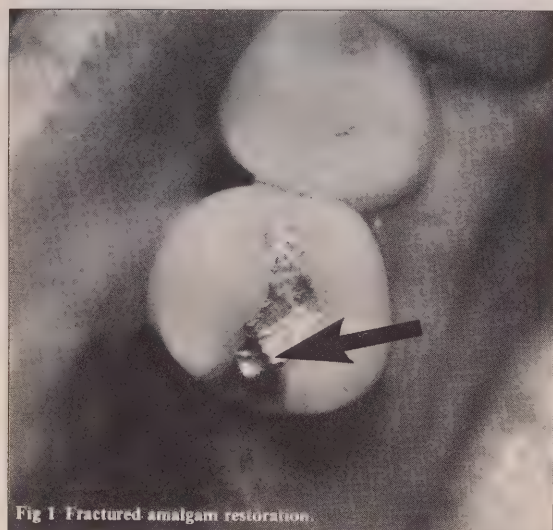


Fig 1 Fractured amalgam restoration.



Fig 2 Inlay preparation.

AMALGAM RESTORATIONS

With the advent of high copper amalgams, amalgam restorations for abutment teeth are becoming more acceptable. Up to this time, most techniques suggested for amalgam restorations to fit existing partials relied mainly on guess-work to make the correct rest and guideline areas. Stamps and Tanquist⁸ suggested a technique to eliminate this guess-work; it involves the usual tooth preparation for an amalgam, but additional tooth structure is removed in the proximal box area to allow for an amalgam condenser to fit around the occlusal rest of the partial. A matrix band is fitted around the abutment tooth and the partial is seated and stabilized intraorally. The amalgam is then condensed into place. The final amalgam restoration should provide a functional restoration in the abutment tooth which exactly fits the existing partial.

Direct method of constructing an inlay to fit an existing removable partial denture

For this patient, a class II removable partial denture was in the process of being constructed. After the metal framework had been fabricated and fitted in the mouth, the class II amalgam of the abutment tooth fractured (Fig 1) and it was decided to restore the abutment tooth with an inlay to fit the existing partial framework. The remaining fractured amalgam was removed and modifications were made for a class II inlay preparation (Fig 2).

Upon completion of the preparation, a lubricant was painted over the tooth to ensure the removal of the inlay wax pattern. Inlay wax was softened and pressed into the preparation. The entire pattern was then removed and examined to ensure that the wax had the proper extension and coverage of the inlay preparation. After carving and marginal adaptation of the wax inlay, the

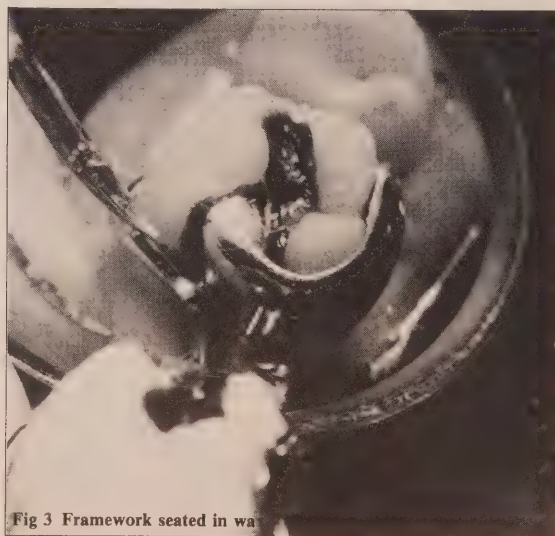


Fig 3 Framework seated in wax.

occlusal rest area and minor connector of the metal framework were warmed over a flame and seated in the mouth. Firm pressure over the other rest areas of the partial denture ensured that the framework was fully seated to give an exact recording of the occlusal rest and the guiding planes on the wax pattern. With the framework in place, excess wax in the rest and guiding areas was trimmed away (Fig 3). Upon removal of the framework, the final carving of the wax was carried out; care was taken not to touch the occlusal rest or guiding plane. The wax inlay pattern was now removed to be sprued and cast.



When the unfinished inlay was returned from the laboratory, the cast sprue was left intact to aid in the placement of the inlay. The inlay was tried into place and the framework was also inserted. Upon confirmation of fit of both the cast inlay and framework, the sprue was cut and the margins of the inlay were finished intraorally. Care was taken to avoid distorting the occlusal rest and guiding plane. The inlay was cemented into place after polishing (Figs 4 and 5).

DISCUSSION

The inlay restoration functionally restored the abutment tooth and provided an accurate fit for the existing partial denture framework. The direct method provided an efficient and accurate technique for restoring abutment teeth. The most troublesome procedure with this method proved to be the intra-oral finishing of the cast inlay. This problem could be avoided by constructing a die for the inlay so that it could be finished extraorally. One suggested method for constructing such a die would be to take a quarter arch impression with the sprued inlay in place after its fit had been confirmed. The removal of the impression would also remove the cast inlay from the abutment tooth. Now this impression could be poured with any die stone. After setting, a die could be trimmed out of the quarter arch model and the inlay could be finished on this fabricated die.

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Retention of self-threading pins

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In the past 10 to 15 years, the various types of stainless steel pins that aid in the retention of restorative materials have been researched, and reports have been published.¹⁻⁷ In the last several years, two small diameter self-threading pins have been available to the dental profession. However, retentive values for these pins have not been widely reported. The purpose of this laboratory study was to examine the retention in dentine of the TMS Minuta* and the TMS Minikin* self-threading pins as compared with the TMS Minim* self-threading pin (Figure 1). The relationship between retention and the pin-twist drill diameter was also evaluated.

MATERIALS AND METHODS

Extracted human posterior teeth were stored in normal saline before testing. The teeth were prepared by notch-

ing the roots and embedding the root portion up to the cemento-enamel junction in acrylic. The teeth were sectioned 2 mm above the cemento-enamel junction in a horizontal plane. Pin channels were prepared in the teeth, using a gear-reduction contra-angle mounted on a surveyor arm to allow pin channels to parallel the long axis of the tooth. Since the length of the drills and the configuration of the Minuta and Minikin pins do not allow the same depth in dentine as the Minim pin (2 mm), the channels for the Minim pin were not drilled to the full depth of 2 mm in order to approximate the depth of the other pins. All pin channels were prepared to a mean depth of 1.3 mm, using the manufacturer's twist drill. The pin channels were at least 1 mm from the dentino-enamel junction, evenly spaced around the circumference of the tooth, and the pins placed using a hand wrench. Actual pin depth into dentine was determined by measuring the length of each pin before placement and subtracting from this measurement the length of pin material extending beyond the tooth surface after placement. Each of the 20 specimens contained one each of the three types of pins, for a total of 60 pins. All specimens were stored in 100 per cent relative humidity until testing at one week after insertion of the pins.

Maximum retention in dentine was determined by recording the force in pounds necessary to remove the pin from dentine. The pin material extending above the tooth surface was gripped so that the test load was applied in the direction of the long axis of the pin. The load was applied using the Instron** testing instrument at a cross-head rate of 0.05 inches per minute. Twenty replications for each of the three pin types were performed. The order of specimen preparation and testing was randomized.



Fig. 1.

A.	Minuta	Pin	0.0155 in.
		Twist Drill	0.0135 in.
B.	Minikin	Pin	0.0190 in.
		Twist Drill	0.0170 in.
C.	Minim	Pin	0.0230 in.
		Twist Drill	0.0210 in.

Table 1
Mean retentive forces for the three pin types tested

Pin Type	Pin Diameter (Inches)	(SD)	Twist Drill Diameter (In.)	Retentive Force (Lbs.)	Standard Deviation Lbs.)
Minuta	0.0155	0.0002	0.0135	15.7	2.3
Minikin	0.0190	0.0004	0.0170	27.9	6.1
Minim	0.0230	0.0005	0.0210	47.5	6.3

*Thread-Mate-System, Whaledent International, 236 Fifth Avenue, New York, NY 10001.

**Universal Testing Instrument, Instron Corporation, Canton, Mass., U.S.A.

Table 2
Mean depth into dentine for each of the three pin types

Pin Type	Depth Into Dentine (Mm.)	Standard Deviation (Mm.)
Minuta	1.2	0.3
Minikin	1.3	0.3
Minim	1.5	0.005

RESULTS

The mean retentive forces for the three pin types tested are shown in **Table 1**, and the mean depth into dentine in **Table 2**. The overall mean depth into dentine for all 60 pins was 1.3 mm.

An analysis of variance showed a significant difference in mean retentive forces for the three pin types ($P > 0.05$). Tukey's test for significant mean difference showed that each of the three means were significantly different. A strength of association test⁸ showed that pin type accounted for 87 per cent of the variance in retentive force. There was no significant difference in mean pin depth for the three pin types. Therefore, all the pins can be considered to have been placed at the same depth into dentine. The standard deviations of the pin diameters are shown but the twist drill variations were not significant. Differences in channel size are dependent primarily upon operator variability.

DISCUSSION AND CONCLUSIONS

As expected, the retention in dentine increased as the pin-twist diameter increased. As shown in **Figure 2**, this relationship appears to be approximately linear over the range of pin-twist drill diameters. The mean retention of the smallest diameter pin (Minuta) was approximately one-third the retention of the Minim pin and approxi-

mately one-half the retention of the Minikin pin.

The amount of retention necessary for a successful pin-retained restoration is not known, and a small diameter pin such as the Minuta may provide adequate retention when used in place of a larger diameter pin. The smaller diameter pins offer the advantage of not requiring as much tooth structure for pin placement. However, if it requires the placement of three Minuta pins in place of one Minim pin, this advantage may be lost.

When using threaded pins with a restoration, the clinician should give consideration to the relationship of pin-twist drill diameters and the amount of dentine available in order to maximize the retention. If the smaller diameter pins are selected, careful attention, as usual needs to be given to channel preparation and pin placement since these pins have been shown to have lesser retentive values.

The linear relationship between retention and pin-twist drill diameter needs further study. Possibly a mathematical equation could be developed for calculation of the retention, based on the type and dimensions of the pin system being used. This would allow for prediction of the pin system retentive values to be correlated with laboratory or clinical experimentation.

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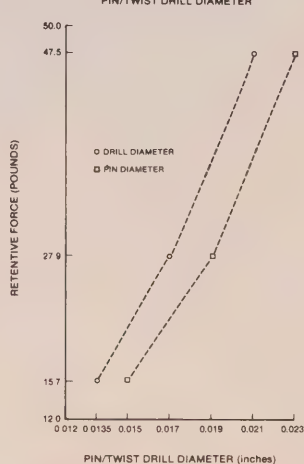


Fig. 2. Retention in dentine vs. pin/twist drill diameter.

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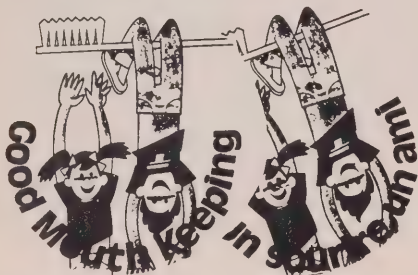
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Announcements

CANADA

Canadian Dental Association, 1981 National Convention, Calgary, Alberta, August 30-September 2, 1981. Contact: Dr. R.H. Headley, 811 Elbow Drive S.W., Calgary, Alta. T2V 1K3.

March/mars

Western Canada Dental Society Curling Bonspiel, Vancouver, British Columbia, March 12-14, 1981. Contact: Dr. E.T. Duke, 206-10340-134A Street, Surrey, B.C. V3T 4B8, for further information.

April/avril

Canada's 37th Annual National Health Week, April 5-11, 1981. These dates have been chosen to include World Health Day, April 7th, with its theme: "Health For All By The Year 2000". Sponsored by The Health League of Canada, 76 Avenue Road, Toronto, Ont. M5R 2H1.

Canadian Dental Association 1981 National Convention Calgary, Alberta
August 30 to September 2
Contact: Jack A. Derbyshire
496 Palliser Square East
115-9 Ave. S.E.
Calgary, Alta. T2G 0P5
Phone: 403-261-5877

L'Association dentaire canadienne
Congrès national de 1981, Calgary, Alberta
30 août au 2 sept.
Agent: Jack A. Derbyshire
496 Palliser Square East
115-9 Ave. S.E.
Calgary, Alberta
T2G 0P5
Téléphone: (403) 261-5877

Journées Dentaires du Québec, Queen Elizabeth Hotel, Montreal, Quebec, April 26-30, 1981. Contact: Dr. Morton R. Lang, Journées Dentaires du Québec, 801 Sherbrooke Street East, Suite 303, Montreal, Que. H2L 1K7. Tel: (514) 481-0397.

May/mai

Canadian Radiation Protection Association's Second Annual Meeting, Government Conference Centre, Ottawa, Ontario, May 5-6, 1981. For Those interested in presenting papers, the deadline date for abstracts is February 15, 1981. Contact: D. Grogan, Chairman, Local Arrangements Committee, Radiation Protection Bureau, Health & Welfare Canada, Brookfield Road, Ottawa, Ont. K1A 1C1. Phone: (613) 998-4751.

Ontario Dental Association 114th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 24-27, 1981. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ont. M5R 2P1.

June/juin

Fourth Canadian Congress of Dentistry for Children, Harbour Castle Hotel, Toronto, Ontario, June 5-7, 1981. Contact: Dr. Keith Titley, 48 Cleveland Street, Toronto, Ont. M4S 2W2.

Yukon Dental Association's 1981 Convention, Kluane National Park, Yukon Territory, June 26-28, 1981. Contact: Dr. John Stern, 309 Wood Street, Whitehorse, Yukon Y1A 2E7.

Atlantic Provinces Dental Convention, Moncton, New Brunswick, June 30/July 1, 1981. Contact: Dr. R. Legere, 335 Mountain Road, Moncton, N.B. E1C 2M4.

July/juillet

Western Canada Dental Society Convention, Winnipeg Inn, Winnipeg, Manitoba, July 1-4, 1981. Contact: Dr. Ted Derrett, Chairman, 1981 W.C.D.S. Convention, 300-296 Kennedy Street, Winnipeg, Man. R3B 2M6.

August/août

Canadian Academy of Prosthodontics Annual Meeting, Calgary, Alberta, August 28-29, 1981. Contact: Dr. B.M. Jackson, 22-22 Water Street S., Kitchener, Ont. N2G 4K4.

INTERNATIONAL

March/mars

The British Council, Course on Advanced Paedodontics, University of London & University of Newcastle, England, March 8-20, 1981. Contact: The Representative, The British Council, British High Commission, 80 Elgin Street, Ottawa, Ont. K1P 5K7.

The American Public Health Association's theme for the 109th Annual Meeting is "Energy, Health and the Environment". The Dental Health Section is inviting submission of abstracts of papers to be presented at the meeting in Los Angeles, California, November 1-5, 1981. The deadline is March 13, 1981. For information and abstract forms contact: Dr. D.I. Rosenstein, 611 SW Campus Drive, Portland OR, 97201, U.S.A.

10th Asian Pacific Dental Congress, Hyatt Convention Centre, Singapore, March 26-31, 1981. Contact: The Secretary-General, 10th Asian Pacific Dental Congress, c/o Singapore Dental Association, 4A College Road, Singapore 0316.

April/avril

International Symposium co-sponsored by the Tel Aviv University School of Dental Medicine and Alpha Omega International Fraternity-Toronto Chapter, Tel Aviv University Campus, April 29-30, 1981 and continuation May 11-12, 1981. Contact: Dr. H.J. Levin, 2006 Bathurst Street, Toronto, Ont. M5P 3L1 or Dr. H.

Judes, School of Dental Medicine, Tel Aviv University, Ramat Aviv, Israel.

May/mai

4th International Congress on Cleft Palate and Related Craniofacial Anomalies, Acapulco, Mexico, May 3-8, 1981. Deadline for scientific contributions and advance registration at reduced fees is August 31, 1980. Contact: General Secretariat, 4th International Congress on Cleft Palate, Apdo. Postal 18-986, Mexico 18, D.F. — Mexico.

Alabama Implant Congress VII, Birmingham, Alabama, May 7-10, 1981. Contact: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Ala. 35206, U.S.A.

The American Academy of Implant Dentistry's 29th Annual Active Membership Examination, 211 East Chicago Avenue, A.D.A. Headquarters Building, Chicago,

Illinois, U.S.A., May 15-16, 1981. Contact: A.A.I.A., 515 Washington Street, Abington, Massachusetts 02351, U.S.A. **International Congress on Combined Orthodontic and Surgical Treatment of Maxillofacial Deformities**, The Hague, The Netherlands, May 18-20, 1981. Contact: W. Van Herk, Stoeplaan 20 Wassenaar, The Netherlands.

The VI Belgian Congress for Dentistry, Ostend, Belgium, May 27-30, 1981. Contact: Organizing Committee, Maison des Dentistes, 165 Avenue de Jette, 1090 Brussels, Belgium.

June/juin

The First General Scientific Meeting of the International Association of Oral Pathologists in association with the Scandinavian Society of Oral Pathology and Oral Medicine, Gothenburg, Sweden, June 1-4, 1981. Contact: Dr. Guy Heyden, P.O. Box 33070, S-400, Gothen-

burg, Sweden.

4th European Congress of the European Federation for the Advancement of Anaesthesia in Dentistry, Lugano Congress Center, Lugano, Switzerland, June 18-20, 1981. Contact: Dr. Rene Charbon, Via Canova 18, 6900 Lugano, Switzerland.

American Dental Society of Europe Annual Meeting, Loews Hotel, Monte Carlo, Monaco, June 23-26, 1981. Contact: Hon. Secretary, Dr. Brian J. Parkins, 57 Portland Place, London W1N 3AH, England.

July/juillet

The VI Congress of the International Association of Dentistry for the Handicapped, Davos Switzerland, July 22-25, 1981. Contact: R.K. Hall, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052, Australia.

September/septembre

International Conference on Mercury Hazards in Dental Practice, Glasgow, Scotland, September 2-4, 1981. Contact: Prof. J.M.A. Lenihan, West of Scotland Health Boards, Dept. of Clinical Physics & Bio-Engineering, 11 West Graham Street, Glasgow G4 9FL, Scotland.

Third World Congress on Pain (Sponsored by the International Association for the Study of Pain), Edinburgh, Scotland, September 4-11, 1981. Contact: Third World Congress on Pain, University of Edinburgh Centre for Industrial Consultancy and Liaison, 16 George Square, Edinburgh, EH8 9LD, Scotland, U.K. or Louisa E. Jones, BS, Executive Secretary, International Association for the study of Pain, Dept. of Anesthesiology RN-10, University of Washington, Seattle, WA 98195, U.S.A.

Fédération Dentaire Internationale, 69th Annual World Dental Congress, Rio de Janeiro, Brazil, September 5-9, 1981.

International Congress on Biomaterials in Stomatology, Pretoria, South Africa, September 18-20, 1981. Contact: Congress Secretary, Faculty of Dentistry, P.O. Box, 1266, Pretoria, Republic of South Africa 0001.

November/novembre

New York College of Dentistry's new one month course "Current Concepts in American Dentistry", New York University Dental Center, 421 First Avenue, New York, New York 10010.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 décembre 1980:

<i>Fonds d'actions ordinaires</i>	\$54.869
<i>Fonds à revenu fixe</i>	\$24.063
<i>Fonds garanti</i>	\$18.954
<i>Fonds de placement équilibré</i>	\$12.766

L'avoir total (valeur marchande) du régime s'élevait à \$33,922,230.

Au 30 novembre 1980, les chiffres du mois précédent étaient les suivants:

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<i>Fixed Income Fund</i>	\$24.063
<i>Guaranteed Fund</i>	\$18.954
<i>Balanced Fund</i>	\$12.766

Total assets (market value) of the plan were \$33,922,230.

The previous month's figures, as of November 30, 1980, stood as fol-

lows:

<i>Common Stock Fund</i>	\$54.587
<i>Fixed Income Fund</i>	\$23.741
<i>Guaranteed Fund</i>	\$18.765
<i>Balanced Fund</i>	\$12.489

Total assets (market value) of the plan were \$33,939,324.

For further information write to: Canadian Dental Service Plans Inc., P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

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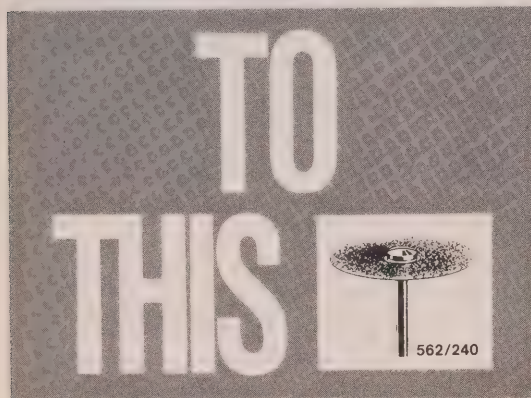
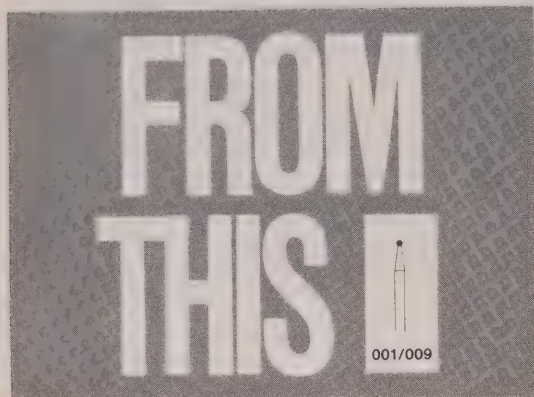
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Miscellaneous

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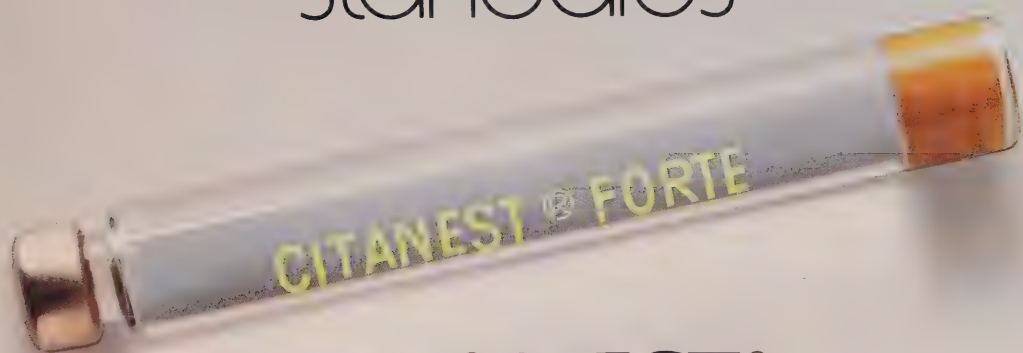
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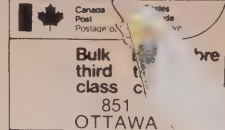
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Analyzing Selected Criticisms of Water Fluoridation

I

With the fate of water fluoridation being decided more frequently by public referendum, proponents of this proven method of caries prevention must begin to familiarize themselves with current arguments and claims being used by opponents should it become necessary during a campaign to provide information about the effects of fluoride. A major objection raised by antifluoridationists is that fluoride is harmful to humans and their environment. Allegations have been made that fluoride causes cancer, that it may be responsible for genetic mutation, that it damages certain organs of the body, and that as an action, the fluoridation of public water supplies is an abrogation of an individual's rights. Increasing public concern about additives in food and contaminants in the environment adds fuel to the controversy.

Historically, arguments against fluoride have ranged from serious concerns to outlandish allegations. However, today's opponents may not only be adept at the manipulation of scientific research, but may give a very convincing presentation of their objections to an uninformed public or to the media.

This report has been written for those persons who, because of their involvement as concerned citizens or health professionals, may have to refute these objections during a fluoridation campaign. Although by no means comprehensive, the selection of topics herein reviewed contains some of the more frequently discussed issues. References at the end of each section can provide the reader with additional sources of information should a more thorough investigation of a particular topic be desired.

II

EFFECTIVENESS OF WATER FLUORIDATION

A relationship between the natural fluoride content in water and the prevalence of dental caries was determined through a series of investigations conducted by the U.S. Public Health Service during the 1930's and 1940's.⁷⁻⁹ In those cities with a fluoride content of .9 parts per million (ppm) and greater, the prevalence of dental caries was less than in those cities whose water supplies contained fluoride at concentrations of .6 ppm or less. From these investigations, several conclusions were reached, most significantly the fact that at a fluoride level of 1.0 ppm, a maximum degree of caries inhibition occurred with limited adverse effects — slight changes in tooth color called mottling of enamel. As the fluoride concentration exceeded 1.5 ppm, the severity of the mottling increased without a concomitant increase in caries inhibition. Below 1.0 ppm, caries inhibition decreased as the fluoride content decreased.

Confirmation of a similar relationship between water supplemented with fluoride and decreases in dental caries occurred as a result of several long-term studies conducted in Grand Rapids, Michigan,¹ Evanston, Illinois,² and

Brantford/Sarnia/Stratford, Ontario.⁴ The fluoride concentration in water supplies of these cities was adjusted to 1.0 ppm or slightly greater. Children were examined before the addition of fluoride and for several years after. These findings were then compared with data collected from similar non-fluoridated communities. The incidence of caries in those children consuming fluoridated water since birth ranged from 49 to 57 per cent less than children of similar ages in the non-fluoridated communities.¹⁵ These original studies have provided much of the justification for water fluoridation.

The Brantford/Sarnia/Stratford study³ is a good example of these early investigations. Of the three cities selected to participate in this fluoridation trial, Brantford's water was supplemented with fluoride to levels of 1.0 to 1.2 ppm. Sarnia's water was essentially fluoride-free and community water in Stratford contained approximately 1.6 ppm naturally occurring fluoride. In 1955, 10 years after the initiation of fluoridation in Brantford, investigators found that children from that community experienced a significant reduction in caries and that the degree of resistance to decay had begun to approach that of corresponding age groups in naturally fluoridated Stratford. Similarly, the number of caries-free children, especially in age groups 6-8 and 9-11, began to increase significantly from similarly aged children in the fluoride-free city of Sarnia. A final survey in 1963⁴ corroborated these results. Caries reductions of over 50 per cent were found in 16 and 17 year olds who had continuously resided in Brantford for the duration of the study. Furthermore, approximately 12 per cent of those individuals were caries-free compared with only .4 per cent in Sarnia. No unsightly mottling was observed in either Brantford or Stratford, nor were any ill effects attributed to fluoridation by health authorities or practising physicians.

A more recent evaluation of the effects of water fluoridation was conducted by Lewis in Toronto, Canada.¹² Data from school dental surveys administered between 1963 and 1975 were examined in relation to the increased exposure of children to water fluoridation. A control group using non-fluoridated water was unavailable, thus examinations of similar age groups were compared over the period of the survey. The author stated that shifting diagnostic standards of examiners over time and decreases in caries activity due to other factors besides water fluoridation, such as changes in diet, improved oral hygiene habits and other fluoride sources, could account for the changes in dental health which occurred. However, no evidence indicated a significant change in the dietary habits of those examined nor did the consistent improvement in dental health appear to be due solely to examine differences. This improvement became more significant as children consumed fluoridated water for longer periods of time.

In younger children who had benefited from the full effects of fluoride, the number of teeth attacked by decay was reduced by about 50 per cent for primary teeth and 44 per cent for permanent teeth. Even in older children born prior to the introduction of fluoridation, reductions be-

tween 33 and 36 per cent were found though many of the teeth examined had had only minimal exposure to fluoride during their development.

Tooth mottling was low in prevalence (less than five per cent) and was considered to be mild in nature when it was observed.

Lewis concluded water fluoridation had resulted in improved dental health for the children of Toronto and the improvements were consistent with those reported by other North American communities.

A 1977 study¹⁶ assessing the effects of fluoridation six years after its inception in both an urban and a rural setting, reported findings similar to previous investigations. Dental caries was 57 per cent lower in the fluoridated urban area and 67 per cent lower in the fluoridated rural area compared with similar non-fluoridated areas. Additionally, about 33 per cent of the five-year-olds in the fluoridated areas were caries-free while only about 11 per cent of similar individuals were caries-free in non-fluoridated areas.

In a review of scientific literature on fluoridation and its utilization in public health, the World Health Organization (WHO) concluded that "a certain level of fluoride consumption — especially when this is continuous from earliest childhood — affords a considerable protection for both permanent and milk teeth against caries, without exerting any unfavorable influence on the appearance of the teeth or on the periodontium."¹⁹ A similar conclusion was reached during a review of fluoride and human health in 1979 by a Task Force on Fluorides initiated by the Governor of Michigan. The report stated that "controlled studies of community fluoridation have consistently demonstrated that a substantial reduction in the incidence of dental caries can be achieved by the fluoridation of public water supplies . . . the weight of evidence strongly supports the conclusion that water fluoridation is beneficial to dental health."¹⁰

The effect of fluoridation on adult populations has not been scrutinized as closely as that on younger populations. Some difficulty in examining adults for continued caries inhibition by fluoride is encountered due to a rise in the prevalence of periodontal disease which may significantly affect tooth loss in older individuals. However, some investigations are noteworthy.

A study by Russell and Elvove¹⁷ concluded that of the adults, age 20-44, with verified histories of water usage and residence in a community with naturally fluoridated water, the total rates for decayed, missing, and filled permanent teeth were about 60 per cent lower than those of individuals of comparable age, race, and occupation in a community consuming non-fluoridated water. Furthermore, greater numbers of caries-free individuals were found in the fluoridated community. Studies of adult dental health in England found similar results.^{11,13} In a fluoridated area, the total number of decayed, missing, and filled teeth was 40 to 50 per cent less than in a similar non-fluoridated area. Beyond 34 years, the percentage difference decreased with age as increasing numbers of teeth in both populations were missing, presumably from periodontal disease. However, the authors felt that significant differences in caries experience for all ages up to and including the 60 to 65 age group, demonstrated that continuous residence in a high fluoride area had lifelong benefits to dental health.¹¹ Murray, reviewing his own and others' investigations of water fluoridation and adult health, concludes that "fluoride in drinking water does not have a merely short-term delaying effect on the appear-

ance of dental caries, but has substantial lifelong caries-preventive effects."¹⁴

A recent investigation by Stamm and Banting measured the prevalence of root caries and/or fillings present in adults with lifelong residence in either fluoridated or non-fluoridated communities.¹⁸ Their findings demonstrated that lifelong residence in a fluoridated community was associated with a highly significant reduction in the presence of root caries or fillings at all ages.

Some comments upon the cost-effectiveness of community water fluoridation are in order. Cost-effectiveness analysis may be defined as a determination of the least expensive method of achieving a stated objective.⁵ Newbrun,¹⁵ suggests that the cost of saving one permanent tooth surface from decay through water fluoridation will be approximately 20 cents per person given that fluoridation reduces the incidence of dental caries by 50 per cent among younger age groups. As the size of the community decreases, the cost per surface will increase, being slightly more significant (greater than \$1.00) in communities under 1,000 persons. A more detailed discussion of cost-effectiveness by Davies⁶ is recommended to those seeking more information about this aspect of water fluoridation.

In summary, the efficacy of water fluoridation in the prevention of dental caries has been established by numerous epidemiological studies and community trials. The benefits to dental health are significant, appear to continue throughout life, and may be acquired economically by any community.

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III

FLUORIDE INTAKE

Introduction

Increased intake of fluorides from ingestion of food and water and inhalation of fluoride-containing air currently represents one of the major issues being used by opponents of fluoridation. The subject has been reviewed extensively,^{1,3-5,13,14,18,26} and these reports are recommended reading for a more detailed analysis of the subject. The ensuing discussion is intended to summarize this information and clarify concerns of the opposition.

REVIEW OF FLUORIDE INTAKE STUDIES

Airborne exposure

The contribution of airborne fluorides to total fluoride intake is considered negligible except in those persons exposed to direct industrial pollution and more rarely in those individuals residing downwind from the emissions of these plants. In rural areas, the amount of fluoride present is generally undetectable. In urban areas, intake may range from 0.01 to 0.04 mg/day,²⁷ but compared with amounts obtained from the diet, this source appears negligible.

Dietary intake

The literature published on fluoride intake is confusing, as results from the various studies invariably demonstrate divergent findings. Individual studies vary significantly in the make-up and source of diets used for analysis. Certain items such as fish and tea are known to contain high levels of fluoride. Likewise, dietary practices in hospitals and of particular individuals may not be consistent, or may not represent valid estimates of fluoride intake for the average consumer. These considerations may help explain the existing discrepancies for the intake ranges reported in the literature, and the non-comparability of certain data.

Osis *et al*¹⁵ analyzed 287 metabolic diets in hospitals over a six-year period. Kramer⁹ again analyzed fluoride intake from hospital diets in 16 different U.S. cities. San Filippo and Battistone¹⁹ analyzed "representative" diets of adult males between the ages of 16-19 in Baltimore. Spencer *et al*²⁵ used diets of 10 patients in an Illinois hospital. Marier and Rose¹² assessed fluoride intake from diets of seven male laboratory workers. Additionally, many of the studies have used different procedures to assess the fluoride content of specific foodstuffs. More current analyses assess concentration using the ion-specific electrode for

fluoride. Research comparing the various analytic procedures has revealed interesting results. Venkateswarlu,²⁸ Taves and Ning,²⁶ and Singer, Ophaug and Harland^{21,22} have independently analyzed foodstuffs using these different techniques. Their findings clearly demonstrate the unreliability of the earlier procedures.

Balance studies

Twenty-four hour urine samples can provide estimates of fluoride intake. For a person ingesting relatively low levels of fluorides, about 50 per cent of an absorbed dose is excreted in the urine each day. The studies of Largent¹¹ have established this relation for doses of fluoride ranging from 1 mg to nearly 20 mg per day. When adults change water supplies, the urinary concentrations approach a new balance level, depending on the intake. In a saturated state after prolonged ingestion of high levels of fluoride, an adult will excrete, on the average, about 85 per cent of ingested fluorides.

Spencer,²⁴ in 1969, compared dietary intake of fluorides with 24-hour urine samples of 10 hospitalized adults. The average dietary fluoride intake for these patients was 2.37 mg/day. The total intake, including consumption of fluoridated water, averaged 4.36 mg/day. Urine analysis for these same individuals revealed only 2.42 mg of fluoride per day. Considering that the water in Chicago had been fluoridated for several years, the excretion of fluoride should have been much closer to 85 per cent of the intake than the approximately 50 per cent reported. The excretion of 50 per cent is characteristic of a sudden increase in fluoride intake not previously present. This discrepancy suggests that an elevated exposure to fluoride might have been produced by the hospital diet. Additionally, the fluoride ingested from consumption of water revealed an increase, averaging 2.37 mg/day. Apparently drinking water was consumed in amounts ranging from two to three litres per day, since the hospital diet permitted other liquid consumption of only 200 ml of fruit juice daily. Because other drinks were absent from these diets, fluids probably were replaced by the use of drinking water which in this instance was fluoridated. Other non-tap water sources of fluid usually have somewhat lower levels of fluoride. Therefore, this estimate may represent an inaccurate and elevated estimate for fluoride intake from water and food.

Bone fluoride concentrations

Kuo and Stamm¹⁰ analyzed fluoride levels in ashed human rib bone using the ion-specific fluoride electrode. Bone samples were collected from 42 cadavers from Quebec. Only about 13 per cent of the Quebec population was then consuming fluoridated water, thus most of the subjects came from non-fluoridated areas. The fluoride levels in the samples varied greatly among subjects of similar age, and there was a strong tendency for skeletal fluoride to increase with age in those 25 years old and over.

In 1966, Smith and Gardner²³ analyzed bone fluoride levels from 18 cadavers from western New York state where water supplies generally contain less than 0.1 ppm fluoride. A comparison of the data from these two studies fails to support the claim that increased levels of fluorides are entering the food chain in non-fluoridated areas.

Recent analyses of bone fluoride from Iowa and Rochester, New York were analyzed separately in both Montreal and Rochester.² All samples were apparently from long-term residents of fluoridated areas. In 1958, Zipkin *et al*²⁹ analyzed bone samples for fluoride concentrations, thus providing a base to compare newly determined values. If fluoride intake has increased beyond

that expected by consumption of fluoridated water, current levels should reflect significant increases in accumulated bone levels. A comparison between the 1958 levels and current values fails to support the claim of increased intake of fluorides. Although a slight increase in bone fluoride concentrations could remain undetected as a result of sampling procedures and margins of error inherent in these analytic procedures, no actual increase in fluoride intake has been demonstrated. This is also true for diet analysis studies and balance studies. The contention, therefore, that fluoride intake is increasing remains unsubstantiated. If a slight increase has occurred, it remains insignificant enough to escape detection.

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IV

EFFECT OF WATER FLUORIDATION ON THE ENVIRONMENT

The effect of water fluoridation on the environment is perhaps the most difficult issue to investigate and answer in fluoridation controversies. For this reason, perhaps, it often becomes one of the primary issues in local campaigns. Unfortunately, few people are qualified to address the numerous questions that can be posed on the issue. For example, what is the effect of water fluoridation on the plant life in marine and fresh waters, on the deposition of fluoride in the hard tissues of dairy cattle, or on the growth and maturation in fruit trees? Obviously these and other technical questions present a formidable scientific challenge for the proponents of water fluoridation. This discussion will not attempt to answer specific questions but will hopefully clarify the issue and provide some answers to general questions concerning environmental effects of fluoridation.

Most of the claims concerning the harmful environmental effects of fluoride are based on case studies involving long-term exposure to industrial pollution. This identifies an important concern. While industrial pollution does represent a serious problem, the implication that water fluoridation and industrial pollution from fluoride emissions are comparable is wrong. The toxic effects of these industrial wastes on plant life are a problem, but the resultant levels of fluoride in the environment far exceed the amount which may be present from water fluoridation. This distinction is perhaps best demonstrated by describing the natural occurrence of fluorine in the environment. It is the 17th most abundant element in the earth's crust, occurring principally as fluoride, CaF_2 and fluorapatite, and it is naturally cycled throughout man's environment.

Atmosphere

As discussed in the section on fluoride intake, rural air normally contains undetectable levels of fluoride while urban air samples may contain between 0.01 to 3.9 micrograms per cubic metre. The majority of the samples of both urban and rural air contain less than the minimal detectable level of 0.5 micrograms per cubic metre. Except in areas with industrial emission of fluoride, its presence in the atmosphere may be considered negligible.

Soils

Fluoride occurs naturally as a constituent of several relatively abundant minerals normally found in soils.

Varying with respect to specific characteristics, all types of soil contain fluoride. Usually about 90 per cent of the natural fluoride in soil is either insoluble or tightly bound to soil particles. Soluble fluoride normally migrates into soil a few feet from the surface and as a result is unavailable for plant uptake. Average soil concentrations range between 100 to 300 ppm; however, concentrations can vary with respect to soil type: 76 ppm in sandy soils, and 2,640 ppm in heavy clay.⁷

Marine Water

Sea water contains fluoride ranging from about 0.77 to 1.4 ppm. Nearly half of this fluoride, however, is bound to other compounds; the remainder is ionic in form.^{1,7} Rivers are the major source of fluoride in ocean waters, adding an estimated 3.2 billion metric tons of the element to the biosphere annually. The resulting reservoir of fluoride exists at a near steady state with an average residence period of between two and three million years. Fluoride is cycled through this reservoir via sedimentation, spray into the atmosphere and incorporation into living matter.

Fresh Waters

Fluoride is found in all fresh waters ranging from less than 0.1 ppm to more than 1,000 ppm in some East African lakes.² Although industrial pollution from fluoride can raise the concentration of surface waters, most sources are below the optimal level of 1 ppm. Some unpolluted surface waters demonstrate high concentrations as a result of geological formations that are rich in fluoride minerals. Higher levels occur wherever water comes into contact with fluoride-containing minerals. In these instances concentrations of 8-12 ppm are not uncommon. In North America, most water supplies over 1.0 to 1.2 ppm have been defluoridated to the recommended level.

From this brief discussion on the natural occurrence of fluorides in the environment, it should be clear that controlled water fluoridation represents only one small natural link in the total cycle of fluorides. It is a link that is being more closely monitored by the health sector. Industry will hopefully continue to improve emission standards to ensure safety for those working at or residing near industrial sites.

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V

TOXIC EFFECTS OF FLUORIDE

The toxic effects of continued large, sub-acute doses of fluoride appear primarily in the teeth and skeleton. Mottling is the term used to describe the color changes which may occur in the enamel of a tooth from excessive ingestion of fluoride. These changes may vary from small white spots to large areas of brown discoloration accompanied by enamel hypoplasia. Mottling can occur only during enamel development in the young individual and thus reflects past exposure to high concentrations of fluoride. The degree of mottling usually runs parallel to the concentration of fluoride in the water being consumed. However, increased water consumption may also affect the amount of involvement.⁴

At a fluoride level of 1.0 to 1.1 parts per million (ppm), the first changes in enamel may appear as small spots or flecks, a slightly different color than that of tooth enamel. As the fluoride concentration exceeds 1.4 to 1.6 ppm, distinct signs of fluorosis or mottling appear as light yellow to brownish spots on the teeth of a few persons in the population being examined. Above 2.0 ppm, brownish spots of varying size may be seen on the teeth of numerous persons in the population. At levels greater than 2.5 ppm, discontinuity of the enamel occurs with severe brown or black discoloration affecting numerous teeth.¹

It must be emphasized that severe mottling is usually endemic in populations consuming water with high concentrations of naturally occurring fluoride. Populations consuming waters supplemented with fluoride at or near 1.0 ppm experience no mottling or very mild fluorosis.^{3,8,11} In fact, there is some evidence which suggests that the prevalence of mottling in communities fluoridated near 1.0 ppm may be less than in similar non-fluoridated communities.^{2,5} These findings underscore the fact that enamel opacities may frequently be present in all populations, may appear quite similar to mild dental fluorosis, and may, even for the skilled examiner, defy identification of their specific etiology.

Fluoride will accumulate quite readily in bone, but no harmful effects of this storage have been demonstrated in communities that have supplemented their water with fluoride at 1.0 ppm. In the United States, skeletal fluorosis has not been found in communities with concentrations of fluoride as great as 20 ppm.⁷ Skeletal changes from continued ingestion of high doses of fluoride may occur over time with irregular deposition of that substance in the

body, concomitant hypermineralization of bone, calcification of ligaments, and bony outgrowths.⁴

In early stages of fluorosis, symptoms may include pain in the joints of the hands, feet, and spine. Stiffness of the spine and limitation of motion are usually present in later stages. It should be emphasized that excessive quantities of fluoride must be ingested for many years for these effects to occur. No evidence has indicated that these effects will be produced from the amount of fluoride ingested from community water supplies at levels of 1.0 ppm.

Fluorosis has been reported to occur in some Indian communities with low water fluoride intake; however, nutritional deficiencies, fluoride from other sources, and other water constituents are also thought to be of etiologic significance in these cases.¹²

High intake of fluids may also be a contributing factor, particularly in warmer climates. Limitations in excretion ability due to renal disease may also increase fluoride retention and deposition in bone, but no symptomatic cases of skeletal fluorosis have been noted in patients with renal disease who have been dialysed with water containing 1.0 ppm fluoride.¹⁰ As a precaution, however, deionized fluids should always be used at dialysis centres for the protection of patients with renal disease.

Evidence regarding the long-term toxic effects of fluoridated water on other organs is inconclusive. Enzyme systems, extra-skeletal calcification, neurological functions, and other tissues seem to be affected only by very large doses of fluoride.⁴ In experimental animals, injury to the kidney, anemia, interference with reproduction, changes in the thyroid gland and weight loss are effects seen after months or even years of exposure to concentrations of 40 to 100 ppm fluoride. These effects have not been confirmed in studies of humans.⁷

Acute fluoride intoxication can occur, usually as an accidental or intentional poisoning. A dosage range of 5-10 grams of sodium fluoride is considered lethal for a 70 kilogram human. Symptoms include diffuse abdominal pain, diarrhea, vomiting, and painful spasms of the limbs. Generally in acute poisoning, fluoride kills by blocking normal metabolism of cells.⁹

The concentration of fluoride in a community water supply does not remotely begin to approach those concentrations necessary to cause the effects previously described. Furthermore, perceptible changes seem to appear only after large amounts of fluoride have been ingested for a significant length of time. Consuming water containing 1 ppm fluoride will not make an individual susceptible to these toxic effects.

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VI

CARCINOGENESIS

In 1975 Yiamouyiannis¹⁴ purported a link between water fluoridation and increased cancer rates. Using data compiled by the National Cancer Institute (NCI), the sum rates for nine specific cancer sites in the 10 largest U.S. cities with fluoridated water supplies were compared with rates in the 10 largest non-fluoridated U.S. cities.

As confirmed by NCI, the average crude mortality rates for the two groups of cities differed markedly after 1952 when one group of cities initiated fluoridation. However, the analysis of Yiamouyiannis failed to take into account different changes in demographic factors and age distributions that are known to affect cancer rates.

Yiamouyiannis and Burk¹⁵ in 1977 again reported these findings after Crude Mortality Rates (CMR) were grouped into four broad age categories and adjusted for race and compared by sex. Although this alleged link was still primarily based on crude death rates, the authors claimed that age, race, or sex compositions of the two populations failed to explain the observed increases in cancer death rates. Seemingly, the argument is simply a matter of how one chooses to analyze the available data.

Standardized mortality ratios (SMR) which are widely used and accepted in cancer epidemiology, adjust the CMR for sex, race and age by expressing the ratio of observed deaths to expected deaths. The CMR is simply a mortality rate which fails to account for the fact that some cancers occur more frequently in one sex than in the other, in certain age groups, or among minorities.

As a result of the report by Yiamouyiannis and Burk,¹⁵ a number of prominent investigators independently re-analyzed the same data from NCI. Strassburg and Greenland,¹² using SMR instead of CMR, found that the connection between water fluoridation and cancer was unsubstantiated. Further investigation of death rates prior to and after exposure to fluoride revealed other errors of omission in the research. Their critique also identified examples of commonly committed errors in the analysis of mortality data and the reporting of scientific research.

Doll and Kinlen² and Oldham and Newell¹⁹ also found that the changes in crude death rates from cancer in these cities could be attributed to differences in the age distribu-

tion and racial mixture of the populations. After adjusting the CMR, the observed rate of cancer decreased in the fluoridated cities and remained the same in the non-fluoridated cities. Taves,¹³ using regression analysis and controlling for specific high risk ethnic groups and six demographic variables, also failed to demonstrate a link between the over all cancer mortality rate and consumption of fluoridated water.

When attempting to answer this accusation against fluoridation, there is an important point which should be mentioned. It is impossible to prove a negative hypothesis — that there are no harmful effects from fluoridation. To implicate fluoridation as a cause of cancer, it must be demonstrated with accepted epidemiological methods to significantly increase the incidence of cancer in a community. Moreover, this evidence should be confirmed by other independent studies. To date, this has not occurred.

Cecilioni¹ failed to corroborate the findings of Yiamouyiannis and Burk,¹⁵ and reaffirmed, again, that the two authors did not consider demographic variables known to affect cancer incidence. Numerous independent studies have repeatedly failed to show any significant increase in cancer rates from consumption of fluoridated water.^{2,6,9,12,13}

Erickson⁴ analyzed mortality data from 1969 to 1971 in 24 fluoridated and 22 non-fluoridated cities, all of which possessed a population of 250,000 or more. After adjusting the crude death rates with respect to age, sex, race, population density, and education, findings revealed no evidence of harmful effects attributable to the consumption of fluoridated water.

The relation between exposure to fluoridation and heart disease, cancer, intracranial lesions, nephritis, and cirrhosis of the liver was studied by Hagen *et al*⁵ utilizing mortality data from 1949-50. Thirty-two cities (16 fluoridated at 0.7 ppm or more, and 16 non-fluoridated with 0.25 ppm or less) were paired regionally and compared. The data were indirectly adjusted for age, sex, and race. No statistical difference in death rates was found for any of the diseases.

Kinlen⁷ analyzed mortality data for the incidence of cancer for areas in England with high natural levels of fluoride, low levels of fluoride, and optimal levels (1.0 ppm) of fluoride in public water supplies. The site-specific incidence of cancer was compared for different localities utilizing the matched pairs test. The findings were also compared with data from other countries. The results again failed to demonstrate a significant difference in the incidence of cancer for any site.

Rogot *et al*¹⁰ analyzed data collected between 1950 and 1970 from 473 cities in the United States. Findings revealed no correlation between ingestion of fluoride and death rates due to heart disease or cancer. Additionally, the results suggests that cities which were naturally fluoridated at high levels, registered the largest mortality decline of the cities that were studied.

In a Canadian study³ of 79 groups of municipalities during a period from 1934 to 1973, death rates (SMR) from cancer were compared between fluoridated and non-fluoridated municipalities. This site-specific analysis found no appreciable differences in death rates (SMR) of all types of cancers. Also, there were no significant differences between death rates from all types of cancers when compared within the same group of communities prior to and after fluoridation.

In response to the report by Yiamouyiannis, the NCI undertook several studies to investigate his claim. Hoover *et al*⁶ compared mortality data collected between 1950 and

1969 for the site-specific incidence of cancer for endemic and artificially fluoridated areas in Texas. Standard Mortality Ratios controlling for urbanization and socioeconomic status indicated no increase in the incidence of cancer in those areas where fluoridated water was consumed. Furthermore, in countries where high levels of natural fluoride were present, results revealed decreased risk of brain cancer.

When Hoover *et al*⁶ re-examined the data used by Yiamouyiannis, taking into account all pertinent demographic variables, the presence or absence of fluoride made no significant difference in the incidence of cancer for any site other than stomach cancer. Although a site-specific regression analysis for the incidence of stomach cancer in males did demonstrate a significant increase ($p < 0.05$), a positive correlation could occur in 5 per cent of any cases examined. In this analysis, 16 cases were examined, thus the possibility of a positive finding occurring purely by chance cannot be disregarded. However, this finding should not be considered as strong evidence of a link between fluoridation and cancer as it has not been substantiated by other independent studies.^{3,6,7,11}

In summary, local proponents of water fluoridation can expect the issue of a cancer-fluoride link to be used by anti-fluoridationists. It is important to note that only the work by Yiamouyiannis and Burk¹⁵ supports the alleged link between fluoride and cancer. Careful re-analysis of the same data by noted epidemiologists has failed to confirm this finding.

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VII

CONGENITAL MALFORMATIONS

Several published reports have indicated a causal link between the consumption of fluoridated water and congenital malformations.⁵⁻⁷ A review of this topic indicates that current research is inconclusive. Generally, most studies possess one or more of the following concerns.

First, most investigations have used plants, fruit flies or animals for experimentation. Although evidence does not suggest that fluoride is mutagenic for all species, it certainly does not rule out that possibility, particularly for fruit flies. However, even if fluoride were found to be mutagenic in certain species, the relevance of this fact is questionable in view of human epidemiological data.^{1,2,4,8} Further information on this subject may be acquired from reports by Taves⁹ and the National Academy of Sciences³ which provide thorough and concise reviews of the topic.

Second, some of the research with humans was not conducted using accepted epidemiological concepts, and thus the findings must be questioned. The remaining work on human populations, although invariably showing no harmful effects from drinking fluoridated water, has generally failed to prove unequivocally that no link exists. The populations studied were not large enough to demonstrate significant differences from the small changes in the incidence of such conditions.

Considering that opponents of fluoride are quite active, it is surprising that more research has not been generated on this topic. Reasons to explain this apparent lack of interest may include: existing research has failed to implicate fluoridation as a causal agent in congenital malformations; the research is expensive and painstaking, and if flaws do exist, they are generally easy to identify; other issues have been more productive for the opposition, especially those in which objective observation is more difficult. As a result, the issue of genetic mutation has not received much attention from antifluoridationists in the past. Nevertheless, a summary of the work on congenital malformations in humans is presented to assist proponents if the issue should arise.

The suggestion that fluoride is a cause of mongolism originates from studies by Rapaport.⁵⁻⁷ A dose-related effect was purportedly observed when the number of cases of mongolism and the concentration of fluoride in the water were compared. However, this work has been criticized because it failed to utilize accepted epidemiological principles. In the initial study⁵, the observed cases were not assigned by place of residence of the mother but by the place of delivery. This oversight failed to properly categorize mothers according to their consumption of fluoridated water. In the second report,⁶ Rapaport corrected for this methodological error; however, these results indicated another serious problem. Intensive investigation concerning mongolism has revealed a remarkably constant incidence, ranging from only 1.15 to 1.92 per 1,000 births,⁹ the median value being 1.5 per 1,000. Rapaport reported rates from institutions or birth and death certificates ranging between 0.24 and 0.78 per 1,000. It appears that the author

failed to identify all cases of mongolism. Furthermore, many cases of mongolism are not diagnosed at birth, and a large percentage of these persons reside outside institutions. Additionally, these findings have not been substantiated by subsequent studies.

Berry¹ analyzed data collected from institutions, death certificates, medical records of medical offices of health, and personal knowledge of health visitors and others concerning the prevalence of mongolism for three naturally fluoridated and three non-fluoridated cities in England. After intensive identification of cases, all names were checked for duplication. Only live births were analyzed. As a result, the incidence of mongolism in this study was consistent with expected rates. Although maternal age was not considered, findings failed to reveal any relationship between long-term consumption of fluoridated water and the incidence of mongolism.

Needleman,⁴ in a meticulous case finding effort, identified 2,469 children with Down's Syndrome born in Massachusetts between 1950 and 1966. Again, the occurrence was consistent with expected rates. Each case was then classified according to age, place of birth, and age of the mother. The findings failed to reveal any short-term relation between consumption of fluoridated water and the occurrence of Down's Syndrome.

Erickson *et al*² in 1976, reported data from two surveillance areas concerning the relation between fluoride and congenital malformations. Although the number of cases of mongolism in both areas was low, the resulting data did not indicate a significant difference in the incidence of mongolism between fluoridated and non-fluoridated areas. Furthermore, data on other congenital malformations failed to reveal any significant differences in incidence rates.

In summary, there is no scientific evidence which supports the contention that fluoridation causes congenital malformations in humans. Published investigations, however, have not ruled out the possibility that a small effect could exist, but it has not been observed in populations studied thus far.

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VIII

ALLERGY TO FLUORIDE

Ingestion of fluoride ions at or near those concentrations needed to provide optimal dental benefits has occurred naturally for a sufficient length of time that some indication of potential human intolerance should have manifested itself. Theoretically, an allergy to fluoride would be unlikely since bonding of fluoride to amino acids is unlikely to occur.² However, a number of reports have described sensitivity or allergy to fluoride.

Waldbott,⁴ a primary proponent of fluoride intolerance, believes that a small portion of the population, perhaps one half to one per cent, will experience symptoms of acute and chronic fluoride toxicity from low level concentrations such as found in fluoridated water. Furthermore, he states he has observed physical manifestations of intolerance to fluoride in 500 cases which have been the result of exposure to airborne and waterborne fluoride.¹⁸ Waldbott's investigations have been reviewed in several publications which cast doubt upon his diagnostic methods, lack of supportive laboratory findings, lack of study controls, and his unsubstantiated claims.^{1,2,12,15}

The World Health Organization, commenting upon a Waldbott report¹⁷ of allergic reactions to test doses of 15 mgs of sodium fluoride, stated that the absence of a clinical syndrome led to the conclusion that a variety of unrelated conditions were presented as cases of so-called "fluoride intolerance".¹⁹ Summarizing, the WHO report concluded that there were no adequately documented cases of adverse systematic effects from fluoride ingestion even at levels greater than those found in community water supplies.

In the State of Michigan, a report of the Governor's Task Force on Fluorides also concluded that "Dr. Waldbott's work is insufficient in scope and methodology to conclusively establish the existence of fluoride intolerance".⁴

Isolated incidences of possible intolerance to fluoride have been reported. Occurrences of contact dermatitis from the use of fluoridated toothpaste containing .1 per cent (1,000 parts per million) fluoride have been described.^{11,14}

Feltman and Kosel⁵ reported that one per cent of the individuals in a study using fluoride tablets experienced adverse reactions including eczema, atopic dermatitis, and urticaria. Symptoms disappeared upon the use of a placebo and recurred when fluoride was ingested again. Hodge,⁷ in evaluating this report, commented that no documentation was provided by the authors and that the causes of these reactions remained obscure. He concluded that fluoride could not with certainty be identified as the etiologic agent.

A large fluoride tablet program in Norway with more than 700,000 participating children reported 34 cases of adverse reactions including skin rashes and oral or perioral eruptions. Twenty-four of those individuals either tolerated readministration of the tablets, tolerated similar fluoride preparations of a different brand or experienced the same symptoms when given fluoride-free placebos. Of the remaining 10 subjects nine were unable or refused to participate in the followup exam. One followup exam was not completed. The Norwegian Adverse Drug Reaction Committee concluded that none of the followup studies proved a causal relationship between fluoride and the reported symptoms.¹⁰

Several instances of dermatitis attributed to fluorine, hydrogen fluoride and sodium fluoride from industrial exposure have been reported.⁸ Complaints and objective examinations of workers in a fluoride plant indicated some of the earliest clinical symptoms of chronic fluorosis included damage to the skin, with dermatitis being limited to the very sweaty parts of the body.⁶ However, it appears that only in this type of setting does fluorine present as a sensitizing hazard.

Taves⁹ suggests additional reasons for skepticism about intolerance to low doses of fluoride. He also cites the large number of children receiving fluoride tablets and the concomitant absence of reports of adverse effects. He also points out the substantial number of persons who have received methoxyflurane anesthesia which causes serum fluoride content to increase significantly during surgery. Again, there have been no significant reports of fluoride intolerance. Finally, he states there have been no reports of intolerance from persons moving into and out of communities with high levels of natural fluoride in the water supplies.

Perhaps the best argument against any purported intolerance to fluoridated water is the absence of reported cases of sensitivity, given that more than 100 million persons in the United States alone consume fluoridated water.¹⁶ In England, no allergy to fluoride has been reported among millions of tea drinkers, or among people in contact with sea water which contains 1.4 ppm fluoride.²

The executive board of the American Academy of Allergy has declared unanimously and unequivocally that "there is no evidence of allergy or intolerance to fluorides as used in the fluoridation of communal water supplies".³ Evidence to date substantiates this statement.

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IX

EFFECT OF FLUORIDE ON KIDNEY FUNCTION

Long-term consumption of water containing 1 ppm fluoride appears to have no effect upon persons with normal renal function.

A review of pertinent literature by Hodge and Smith led the authors to state that no kidney effects of any sort have ever been observed in men or animals consuming 1 ppm fluoride in drinking water.⁶ Numerous studies have investigated the effects of fluoridated water at concentrations of 1 ppm fluoride and higher, only to conclude that the normal kidney is not adversely effected. Some of these investigations are reviewed herein.

One study examined the 12-hour urine specimens of 100 boys, age 12 years, who had been drinking 1.0 ppm fluoridated water for eight years and compared them with 100 matched controls from a fluoride-free area. The two groups did not differ significantly in the incidence of abnormal urinary findings.¹⁸

A 10-year study of residents of Bartlett, Texas, a community with a natural fluoride level of 8.0 ppm in the water, found no evidence of renal dysfunction based upon urinalysis when compared with similar individuals from a community with .4 ppm fluoride. Participants in this early study were randomly chosen from persons who had resided in their respective communities for at least 15 years. No significant differences were observed between the two populations except for a predominance of dental fluorosis in Bartlett and slightly more cardiovascular abnormalities in the control city.⁷

Ericsson reported that persons with osteoporosis were given large daily doses of fluoride (50 mg) over the course of several months without any kidney impairment. Because the kidney is one of the first organs to react to toxic doses of fluoride, he feels the absence of any renal effects in these patients provides evidence that fluoridated water at suggested levels does not damage the kidney.³

Geever,⁵ in an extensive review of the skeletal and renal effects of fluoridation, summarizes thusly: "Clinical, pathological, chemical, and statistical studies on residents of endemic regions in the USA with drinking water as high as 8.0 ppm fluoride, have ruled out the possibility of renal injury therefrom. No single report has appeared in which

renal disease was claimed to have been caused or aggravated by consumption of water fluoridated at 1.0 ppm."

Renal changes may occur as concentrations of fluoride increase, and some species (not all) may begin to exhibit these changes when levels of about 100 ppm fluoride are reached. However, Geever found that even toxic industrial fluoride exposure was not characterized by renal injury.⁵

Because fluoride is primarily excreted through the kidney, the condition of this organ may have a significant effect upon an individual's ability to eliminate excessive fluoride from the body. In fact, persons with impaired renal function may have only about one-third the ability to void absorbed fluoride.¹ Decreased excretion of fluoride may result in excessive deposition in the body. Hypermineralization of bone, calcification of ligaments, and bone outgrowths may result because of decreased renal excretion of fluoride.

Of particular importance is the effect of ion retention upon individuals undergoing kidney dialysis where the fluids used contain fluoridated water. These persons may receive large amounts of fluoride, while at the same time have only limited routes of excretion such as through salivation and perspiration.

In some renal dialysis units, it has been considered advisable to deionize tap water to remove any natural or added solutes such as fluoride before its use in dialysis.¹¹

It must be emphasized that deionization of dialysate is not motivated exclusively by the fluoride content of the water. Dialyzing fluid is prepared for renal patients as a prescription from a nephrologist, and its composition is determined specifically for the needs of the particular patient.⁵ The recommended standard for dialysis water is 0.2 ppm or less to avoid problems with excessive absorption of fluoride.²

Attention to the preparation and composition of dialysate used in renal units is underscored by the following report¹ of over-exposure to fluoride by renal patients in a Maryland hospital. An unreported spill of hydrofluoro-silicic acid in a public water supply caused eight persons undergoing renal dialysis to become ill. One patient died. Water used for dialysis was found to contain 50 ppm fluoride and was not treated by reverse osmosis or deionization — two procedures which purify dialysate. Severe illness related to the spillage was limited to persons with endstage renal disease and was the first serious incident of fluoride over-exposure since the initiation of this public health measure.

Diabetes insipidus, a disease which impairs kidney function, may also put a small segment of the population at risk from fluoride intake. Symptoms of this disease include excessive thirst and excessive urinary excretion.⁴ A review of the literature by Rose and Marier⁹ found 10 reports of this condition in which skeletal or dental fluorosis occurred from increased absorption of fluoride. Skeletal fluorosis was associated with higher than normal concentrations of fluoride while dental fluorosis was associated with smaller concentrations. Fluoride intake was not cited as an etiologic agent of the renal condition in any of the reports which were reviewed.

Naturally fluoridated water or water supplemented with fluoride will have no effect upon the kidneys, nor will the consumption of such water lead to renal disease. Persons with impaired renal function can experience diminished excretion of fluoride and if that function has decreased to such an extent that dialysis is necessary suitable precau-

tions should be undertaken to ensure that a fluoride-free dialysate is used during treatment.

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FREEDOM OF CHOICE

A discussion on the issue of individual rights or freedom of choice does not permit the use of supporting scientific evidence because of the philosophical and ultimately political nature of this question. Hopefully when an issue, health related or otherwise, is considered beneficial to the public, those individuals who are responsible for making decisions on that issue will do so armed with substantial evidence to corroborate the benefits of such an action in response to a majority of public sentiment. Certain concerns about personal rights are often raised during fluoridation campaigns and some of them will be discussed.

A frequent concern is that the public may be endangered by the addition of fluoride to community water supplies and this action is morally wrong.

The safety and efficacy of water fluoridation are based upon sound scientific evidence discussed and documented elsewhere in this paper. Fluoridation of community water supplies is the most cost-effective and efficient method of providing the public with a proven preventive agent. Other methods of supplementing fluoride intake do not guarantee consistent intake either because of a limited exposure time of the individual, as with school fluoridation, or because of the inability to ensure patient compliance as with the home use of fluoride tablets or rinses. Water fluoridation provides the only constant supplementation of fluoride effectively reaching the most people.

Another objection stems from the concern that no process which affects the health of so many people should be introduced without unanimous approval of that measure.

Democracy as a political philosophy accepts majority rule as one of its tenets, and this principle is continually reinforced in the voting booth.

A unanimous decision is neither mandatory nor expected for this process to remain viable and this is the case with an issue like fluoridation. Should it be approved by a majority of votes in a referendum or by a majority of members of a city council, the will of that majority is upheld even though the margin of approval may be quite small. Citizens of democratic states cannot properly claim that liberty of action is absolute, or that nothing short of unanimous acceptance is tolerable. An individual's concerns should centre more correctly upon the premise that liberty of action is not interfered with arbitrarily.²

Another contention is that fluoridation is compulsory medication of the public. In reviewing the legal aspects of fluoridation, Roemer³ indicates the courts have dealt with this concern by ruling that: 1) fluoride is a nutrient, not a medication and may be present naturally in the environment, 2) no one is forced to drink fluoridated water as fluoride-free sources are available, and 3) in cases where persons feel that fluoridation interferes with religious beliefs, there is a difference between the freedom to believe, which is absolute, and the freedom to practise beliefs which may have to be restricted in the public's interest.

Furthermore, no objections have been raised regarding the addition of other substances to drinking water such as copper sulfate, chlorine, or calcium. The difference between these substances and fluoride is not significant enough to regard the latter as medication and the former substances solely as purification agents.⁴

Similarly, another premise contends that individuals have the right to expect and to obtain pure water from a community water supply. The right to obtain water as an essential of life is acknowledged. However, a person does not possess the unequivocal right to receive that water through a man-made system, in unlimited quantities, and to the unique specifications of that person's tastes.¹ A source of fluoride-free water may often be available at a purification plant for those individuals refusing to drink fluoridated water.

The rights of parents to determine what is beneficial for their children is another issue which should be considered. Limitations on the rights of parents must frequently be enforced by society. The inability of children to determine the benefits of health measures such as immunization or fluoridation often requires society to make these critical decisions. The education and welfare of children must often be supervised by society to ensure that abuse of minors does not occur. So must decisions ensuring the health of minors after the need for such actions is determined.

A health measure, regardless of the wealth of supporting scientific evidence, rests uneasily upon that portion of its foundation buttressed by philosophical, moral, or political justification.

Fluoridation, as a social issue, is no exception. As members of a democratic society, proponents and opponents alike, regardless of their zeal, should allow public scrutiny of an issue if such a demand arises. Proponents of fluoridation must then direct their efforts toward ensuring the public will enter the polling booth armed with suffi-

cient knowledge to make an informed decision in the best interest of their community.

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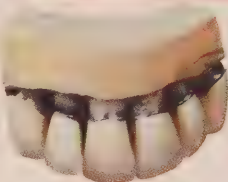
Second of two parts on fluoridation prepared for the Canadian Dental Association. Paul Lang, DDS, MPH, Consultant, Dental Division, Detroit Health Department, Detroit, Michigan and Christopher Clark, DDS, MPH, assistant professor, Department of Community Dentistry, Faculty of Dentistry, McGill University, Montreal, Quebec — authors.

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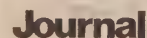
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NATIONAL DENTAL HEALTH MONTH

National Dental Health Month is just that — a national effort to make Canadians more aware of their dental health.

It is not a campaign run by CDA and your provincial organizations. It is a campaign by all dentists.

All dentists must do their part in their own offices to promote National Dental Health Month and oral hygiene, not only during the month of April, but year-round.

The theme again this year is "Good Mouthkeeping" and while the emphasis will be on children, the message is for everyone.

Initial work on this year's campaign began last August when all provincial representatives met and agreed on the directions to be taken.

Planning kits to help provincial organizers were produced by CDA and provide valuable information for use in varied ways throughout the year.

The poster contest will help children become involved in National Dental Health Month in a "fun" way and other promotional activities such as Smile-a-Thons and song-writing contests have been suggested to encourage active participation by youngsters.

The popular Shari Lewis television commercials, featuring her puppet Lamb Chop will be used again this year and CDA is providing each province with a master tape which will include the provincial association's name and that of CDA. Tapes have also been sent to the networks across Canada.

Radio announcements have been sent to all stations in the country and these can be used all year, as can the TV promos.

Several national organizations, such as McDonalds, Holiday Inns, etc. have been approached to promote National Dental Health Month on their outdoor signboards.

While it is difficult to combine the tasks of National Dental Health Month Chairman with the duties of a dentist, I have enjoyed the work involved in formulating strategy for this national campaign.

All Canadian dentists are represented by CDA and by their provincial associations and National Dental Health Month is no exception. However, without the support of each dentist, the efforts of the national and provincial organizations would be less than successful.

The use of promotional material, such as posters and decals in all dental offices can make a significant difference in Canadian attitudes towards dental health.

By attracting children to our campaign we can make parents more aware of dental health and reduce the seriousness of dental disease, which is Canada's Number One health problem.

The grassroots participation of Canadian dentists, combined with the existing co-operative efforts by CDA and provincial associations will make this effort a tremendous success.

April is the target month — improved dental health for Canadians is the bull's-eye.

Dr. Michel Carvonis,
NDHM Chairman

LE MOIS NATIONAL DE LA SANTÉ DENTAIRE

Le Mois national de la santé dentaire, est-il besoin de le préciser, est une campagne nationale qui a pour but de rendre les Canadiens plus conscients de leur santé dentaire.

Ce n'est pas une campagne faite par l'ADC ou par votre association dentaire provinciale, mais par tous les dentistes.

En effet, on s'attend à ce que tous les dentistes du Canada fassent leur part, chacun dans son cabinet, afin de promouvoir le Mois national de la santé dentaire et l'hygiène buccale non seulement en avril, mais aussi durant toute l'année.

Le thème cette année est: "Un sourire, un ami." Bien que la campagne vise les enfants surtout, le message s'adresse à tous.

C'est en août dernier que, déjà, on commençait à préparer la campagne de 1981, alors que tous les représentants provinciaux se réunissaient et s'entendaient sur la marche à suivre.

L'ADC a préparé des pochettes de renseignements afin d'aider les organisateurs provinciaux en vue de la campagne et de leur fournir des informations qui peuvent être utilisées de diverses façons pendant toute l'année.

Par ailleurs, on tiendra à nouveau le concours d'affiches afin que les enfants s'intéressent au Mois national de la santé dentaire et y prennent plaisir. Il y aura aussi d'autres activités, tels les fameux marathons du rire. Enfin, on a proposé d'instituer un concours de chansonnettes pour encourager davantage les jeunes à participer à la campagne.

Cette année encore, on utilisera des commerciaux télévisés mettant en vedette Shari Lewis et sa marionnette Lamb Chop. L'ADC fournira à chaque province une bande originale comprenant le nom de l'association provinciale et celui de l'ADC. Des bandes ont été également envoyés aux réseaux de télévision du Canada entier.

Les postes de radio aussi prendront part à la campagne en faisant passer les annonces qu'on leur a fait parvenir. Celles-ci peuvent être utilisées toute l'année, tout comme les commerciaux pour la télévision d'ailleurs.

On a fait des démarches auprès de plusieurs organismes nationaux comme les McDonald, les Holiday Inn, etc. afin qu'ils annoncent le Mois national de la santé dentaire sur leurs panneaux-réclame extérieurs.

Bien qu'il soit difficile de s'acquitter des tâches qu'impose la présidence du Mois national de la santé dentaire sans négliger le cabinet dentaire, j'ai aimé le travail que la préparation de cette campagne nationale a exigé.

Tous les dentistes canadiens sont représentés par l'ADC et par leurs associations provinciales. Le Mois national de la santé dentaire ne fait pas exception. Toutefois, sans l'appui de chacun, les efforts des organisations nationales et provinciales seraient voués à l'échec.

En posant des affiches et en distribuant des décalques dans tous les cabinets dentaires, les dentistes peuvent contribuer de façon appréciable à sensibiliser davantage les Canadiens à la santé dentaire.

En intéressant les enfants à notre campagne, nous pouvons attirer l'attention des parents sur la nécessité d'une bonne hygiène buccale et réduire l'importance des maladies dentaires qui sont au premier rang des problèmes de santé au Canada.

Une participation enthousiaste de la part des dentistes canadiens, jointe aux efforts qui sont actuellement fournis par l'ADC et les associations provinciales, sera une garantie de succès formidable.

Conjuguons nos efforts en avril afin d'atteindre un seul grand objectif: une meilleure santé dentaire pour les Canadiens toute l'année.

Le président du MNSD,
le Dr Michel Carvonis

THE BRUSH, THE TOOTH AND LISTERMINT WITH FLUORIDE.



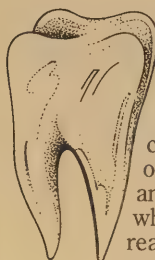
THE BRUSH

Most people who are concerned with reducing cavities already brush with a fluoridated toothpaste. Yet this is often not enough, because brushing alone may be less than perfect in hard to reach areas of the mouth.

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Listermint with fluoride has received the Canadian Dental Association Seal of Recognition. To quote; "Listermint with fluoride contains sodium fluoride which is, in our opinion, an effective decay preventive agent, and is of significant value when used in a conscientiously applied program of oral hygiene and regular professional care. The Canadian Dental Association."

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— case(s) of Listermint with fluoride, Sample size, one case (48/85 mL bottles) for \$12.00.

Enclosed please find my cheque/money order (payable to Listermint with fluoride Professional Plan) in the amount of \$.

(Please add the applicable Provincial Sales Tax: Ontario, 7%; Quebec, 8%; British Columbia, 4%; Manitoba, 5%; Newfoundland, 11%.)

Send to: Listermint with Fluoride Professional Plan, Box No. 8163, Toronto, Ontario M5W 9Z9

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City

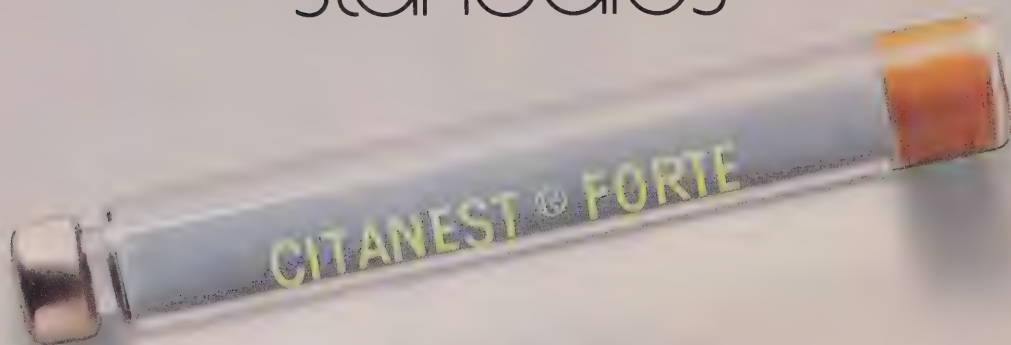
Province Postal Code

Please allow 6 weeks for delivery.



*0.22 mg/ml of sodium fluoride (100 ppm fluoride ion). For further clinical information write to: Director of Professional Services, Warner-Lambert Canada Inc., 2200 Eglinton Ave. E., Scarborough, Ontario, M1K 5C9.

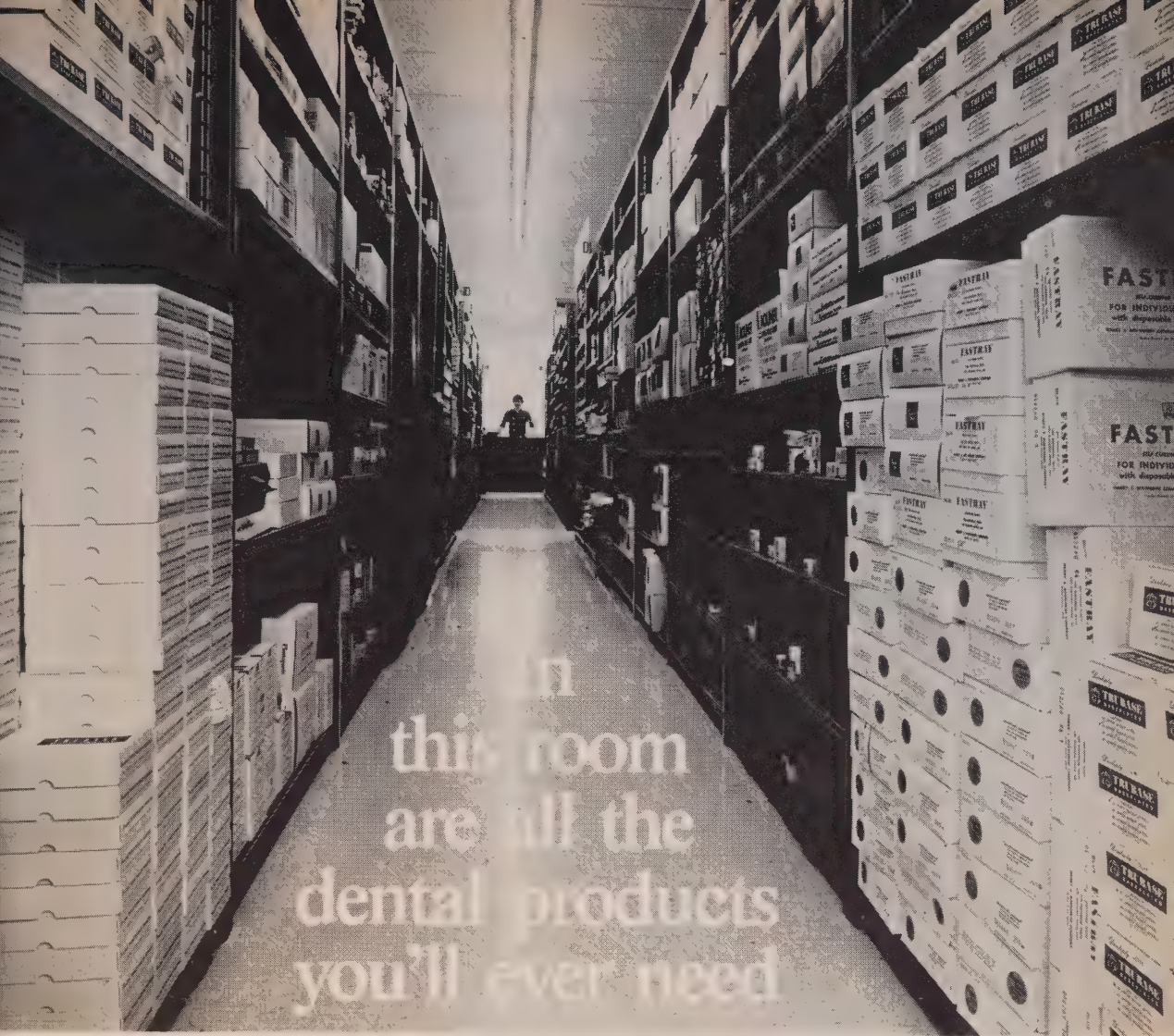
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Dentist writes Minister

Please find enclosed a copy of a letter that I received from Mr. Allan J. MacEachen, Minister of Finance.

I had written Mr. MacEachen regarding changes in the status of the duty on dental materials as provided in his budget of 1980 and felt you would be interested in this information.

J.R. Watts, BSc, DDS,
Cambridge, Ontario

Dear Dr. Watts:

Thank you for your November 20 letter commenting on the October budget.

Turning to the tariff proposal contained in the October 28 budget to exclude dental supplies from the duty-free entry provisions of tariff item 47810-1 is designed to restore the duties that applied prior to a change in the administration of the Customs Tariff at the end of 1979. Production of some of these goods in Canada was undertaken on the assumption that they would be dutiable. It is my view that if the Customs Tariff is to meet its objectives relating to commercial and social policies, important changes in rates of duty should be effected by legislative action based on policy considerations and not merely as a result of administrative decisions.

By way of background, I should explain that tariff item 47810-1, providing duty-free entry for surgical materials, was established following a review by the Tariff Board in 1968, in its capacity as policy adviser to the Minister of Finance, relating to Equipment for Hospitals and other Institutions (Reference No. 134). It is clear from the Board's report that the duty-free provision for surgical materials was never intended to apply to dental materials. Indeed, these ma-

terials remained dutiable until the change in administration in 1979.

The tariff amendment proposed in the budget restored the scope of tariff item 47810-1 to that which had originally been intended when the tariff item was first established. However, officials in the Tariffs Division are reviewing the tariff treatment of dental materials and examining possible amendments to the Customs Tariff in order to simplify the classification of the goods in question. They will be in touch with the Canadian Dental Association for this purpose in the near future.

I appreciate your taking the time to write to me on these important matters.

Allan J. MacEachen,
Minister of Finance

Dentists across Canada are urged to write to their Members of Parliament and/or Finance Minister Alan MacEachen asking that imported dental materials be returned to their duty-free status. When you write your MP, please confine your comments to this one issue because additional complaints directed to other areas reduce the effectiveness of the point you wish to make about tariffs.

Le Journal de l'Association Dentaire Canadienne est heureux d'offrir cet espace aux lecteurs désireux d'envoyer des "Lettres à la rédaction". Toutes les lettres doivent être signées et la rédactrice en chef se réserve le droit de les raccourcir si le manque d'espace l'impose.

The Journal of the Canadian Dental Association is pleased to make this space available for "Letters to the Editor". All letters must be signed and the editor reserves the right to edit communications according to space requirements.

Tariff response

Recently, Dr. Gilbert Utas, president of the Canadian Dental Association, wrote to the Honorable Allan J. MacEachen, Minister of Finance, concerning tariff amendment for dental materials. A copy of Dr. Utas' letter was forwarded to the Honorable Monique Bégin, Minister of National Health and Welfare. Mrs. Bégin's response to Dr. Utas follows:

Dr. Gilbert Utas,
President,
Canadian Dental Association.

Dear Dr. Utas:

Thank you for sending me a copy of your letter of November 14, 1980, to the Honorable Allan J. MacEachen, Minister of Finance, concerning the tariff amendments for some imported dental materials, especially dental filling materials. I understand that this subject is presently being investigated by the Department of Finance. Further, I have been informed that the Honorable Pierre Bussières, Minister of State for Finance, sent you a letter on December 9 to this effect and also provided a detailed explanation of how the tariff amendments were developed.

The cost of health services is indeed a concern of my Department. It does appear that the proposed tariff amendments on certain dental materials, i.e. dental filling materials, could significantly add to the costs of basic dental services in Canada.

I trust that a satisfactory solution can be found.

Monique Bégin,
Minister,
National Health and Welfare

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Une hausse "évitale" des tarifs dentaires

La lettre qui suit a trait aux nouvelles taxes sur les matériaux dentaires importés. Elle a été envoyée à M. Allan MacEachen, ministre des Finances, par le Dr Jacinthe Larivée, dentiste montréalais.

L'Association Dentaire Canadienne faisait parvenir un communiqué aux dentistes au début de décembre, afin de les aviser de l'intention du gouvernement fédéral d'apporter des modifications aux articles 47810-1 et 47900-1 des tarifs douaniers. Cette modification doit annuler la franchise actuellement accordée à la plupart du matériel dentaire importé et utilisé dans la pratique courante. Ceci aura pour effet d'imposer des tarifs douaniers ainsi qu'une taxe de vente sur le matériel de base: le tout entraînant une hausse de l'ordre de quelque 27% sur le matériel importé.

De plus, dans son communiqué, l'ADC explique les raisons qui ont incité le gouvernement fédéral à présenter cette motion à la chambre des Communes et je cite:

L'ADC comprend que l'annulation de la franchise accordée au matériel dentaire répondait à une demande de la société Johnson & Johnson Ltée, une société multinationale américaine et un important fournisseur des dentistes canadiens. Cette société ne fabrique qu'un seul produit au Canada, un amalgame spécial d'obturation. Elle détient par brevet l'exclusivité de la fabrication de ce produit fort populaire aux États-Unis.

En exigeant des droits de douane sur le matériel dentaire importé au Canada, on élimine toute concurrence dans l'importation d'autres amalgames disponibles aux E.-U. — voilà qui placerait dans une position avantageuse ce seul produit fabriqué au Canada par une société qui en détient l'exclusivité, et ce au prix d'un coût plus élevé que les

autres produits du même genre Le retrait des postes 47810-1 et 47900-1 de la liste des objets de franchise a aussi été demandé par la "Canadian Laboratories Conference" comme mesure de protection contre l'importation de prothèses fabriquées aux É.-U. pour les dentistes canadiens . . ."

Par la suite, l'ADC se dit déçue de ne pas avoir été consultée ni même prévenue de ces modifications aux postes tarifaires avant la présentation d'une motion en ce sens à la Chambre des Communes. Elle sollicite une rencontre avec le Ministre des Finances afin d'en arriver à une entente et souhaite rétablir la franchise sur le matériel dentaire à l'exclusion des prothèses dentaires finies.

Comme l'a souligné l'ADC dans sa longue lettre, cette taxe aurait pour effet de faire monter les tarifs des dentistes. Bien entendu ceci pénaliserait toute la population mais en particulier les classes sociales les plus défavorisées. De plus, le gouvernement provincial se verrait tôt ou tard dans l'obligation d'augmenter les honoraires qu'il paye aux dentistes pour les soins assurés (enfants de 0 à 5 ans et bien-être social) par la Régie de l'Assurance Maladie, entraînant possiblement une hausse de taxe, prélevée à même les cotisations des contribuables.

Il est inadmissible que le gouvernement, sur la seule demande de fournisseurs de produits dentaires et de la Conférence des techniciens dentaires ait présenté une motion à la Chambre des Communes dans le but de taxer le matériel dentaire importé. Le gouvernement se doit de consulter les parties concernées soit les Associations de dentistes et la population elle-même puisque c'est cette dernière qui payera la note finale.

Cette situation nous démontre clairement la façon de procéder de nos

représentants gouvernementaux. Les intérêts de la population ne semblent pas analysés en profondeur lorsqu'une multinationale vient demander une loi lui permettant d'établir un monopole sur un produit.

Par contre, je crois la position de l'ADC assez juste quand elle se déclare prête à respecter les intérêts des techniciens dentaires qui revendiquent la protection de leurs membres contre la concurrence des É.-U. Je cautionne également l'attitude de l'ADC quand elle s'oppose à ce que Johnson & Johnson détienne le monopole de la vente d'amalgame (plombage) au Canada.

Il serait souhaitable que la population appuie la lutte des dentistes canadiens qui tentent de freiner une hausse excessive des tarifs dentaires, hausse qui ne servirait que les intérêts d'une multinationale américaine. Des mesures de pression pourraient être entreprises à l'égard du gouvernement et, si nécessaire, nous pourrions envisager de boycotter les produits Johnson & Johnson advenant l'impasse des pourparlers.

Jacinthe Larivée, DMD
Montréal, Québec

Lettre de protestation

Dentistes du Canada, nous vous exhortons à écrire à votre député ou au ministre des Finances, M.A. MacEachen, pour demander que les matériaux dentaires importés soient à nouveau admis en franchise. Quand vous écrirez à votre député, ayez soin de limiter vos observations à ce seul sujet parce que toute autre plainte touchant d'autres domaines atténuera l'effet que vous désirez obtenir à propos des tarifs douaniers.

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10-289 Printed January, 1981.





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See prescribing information on page 01

Motrin (ibuprofen)

Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain, accompanied by inflammation, in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Ibuprofen should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS)

Ibuprofen should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving ibuprofen. Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with ibuprofen, a cause and effect relationship has not been established. Ibuprofen should be given under close supervision to patients with a history of upper gastrointestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving ibuprofen, the drug should be discontinued and the patient should have an ophthalmologic examination.

Fluid retention and edema have been reported in association with ibuprofen, therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Ibuprofen, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Ibuprofen has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, ibuprofen should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on ibuprofen should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When ibuprofen is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with ibuprofen therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to ibuprofen such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering ibuprofen therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants - Several short-term controlled studies failed to show that ibuprofen significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin type anticoagulants. However, because bleeding has been reported when ibuprofen and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering ibuprofen to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with nonsteroidal anti-inflammatory agents including ibuprofen yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on ibuprofen blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with ibuprofen:

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to ibuprofen cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with ibuprofen therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn
Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence)

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System:

Incidence 3 to 9%: dizziness
Incidence 1 to 3%: headache, nervousness
Incidence less than 1%: depression, insomnia
Causal relationship unknown: paresthesias, hallucinations, dream abnormalities

Dermatologic:

Incidence 3 to 9%: rash (including maculopapular type)
Incidence 1 to 3%: pruritis
Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses:

Incidence 1 to 3%: tinnitus
Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during ibuprofen therapy should have an ophthalmological examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic:

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS)

Hematologic:

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit
Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematuria, menorrhagia)

Cardiovascular:

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure
Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations)

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS)

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine:

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdose: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of ibuprofen each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of ibuprofen reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days bed rest.

In cases of acute overdose, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis: The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain associated with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film coated tablets in bottles of 100 and 1000.

Product monograph available on request.

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Obituaries/ Nécrologies

STUART, William Ross, graduated University of Alberta, 1937. Professor, University of Alberta Faculty of Dentistry, 1947 to 1959. Former secretary treasurer and president of the Edmonton and District Dental Society.

RIVEST, Chantale, décédé décembre 1980. Gradué Université de Montréal 1979.

CYR, Oliva, décédé le 21 novembre 1980 à l'âge de 92 ans.

CROWSON, Arthur H., graduated University of Toronto, 1936.

REID, H.W., died November 18, 1980.

SUTHERLAND, Gordon Douglas, graduated University of Alberta, 1927. Died December 22, 1980.

TARR, John Wendall, died November 22, 1980. Graduated McGill University Faculty of Dentistry, 1971. Practised in Nanaimo, British Columbia.

BUTLER, Richard Folsom, graduated North Pacific Dental School, Oregon, 1923. Practised in New Westminster, British Columbia since 1926. Died September 17, 1980.

GODFREY, Richard, professor emeritus of the University of Toronto. Died December 21, 1980 at 87. A past president of the Royal College of Dental Surgeons of Ontario and the National Dental Examining Board, Dr. Godfrey was a life member in both the Canadian and Ontario Dental Associations and the Toronto Branch of the Academy of Dentistry. He was also an honorary life member of the Canadian Academy of Prosthodontics and the American College of Dentists. He was a contributing editor of the Journal of Prosthetic Dentistry.

WILLIGAR, Wylie, born 1897. Died December 9, 1980. Practised in Pincher Creek, Alberta, 1928 to 1955. Employed by Department of Northern Affairs, Edmonton, 1955 to 1967.

Canadian invention will break new ground in field of

A casual lunch between a dentist and a consulting engineer was the unlikely setting for the start of an innovative Canadian project.

Dr. Philip Samis, a Montreal dentist, had just finished reading an article on identification of accident victims in the CDA Journal and discussed it with Frank Hume in July, 1973. Dr. Samis had the germ of an idea for a method of identifying teeth and Hume agreed to provide the technical know-how to begin the project.

A heat-resistant ceramic microdot now being developed at the University of Saskatchewan was the result. The device can be engraved and implanted under a tooth filling for quick identifi-

cation of current research funds. He says local support has been excellent.

Dr. Samis published an article on his ideas in the Canadian Society of Forensic Science Journal and held discussions with Swiss inventors who have a competing system on the market.

Dr. Samis said the Swiss system is limited in its application because a data base is required and they cannot place as many characters on the microdot as his system.

He said he had the inspiration for the idea, but it takes more than one person to get it to market. "The real battle is in the marketplace," he said.

A high-speed denture marking sys-

tem is expected to be available in September.

Dr. Samis also pointed out the system's possible applications in other areas, such as identification of valuables and even animals.

Getting the research project under way at the University of Saskatchewan was the result of the efforts of Dr. E.R. Ambrose, dean of the College of Dentistry.

When Dr. Ambrose was dean at McGill, he met Dr. Samis and was "struck with the interesting aspects of his proposal."

Dr. Ambrose foresaw an even wider worldwide application than Dr. Samis had initially envisioned.

He realized if they were astute enough a computer centre could be established in Canada and gain worldwide attention.

Problems of time and manpower at McGill prevented the proposal from getting off the ground and when Dr. Ambrose went to Saskatchewan he took the idea with him. He invited Dr. Samis to make a presentation to the faculty and when interest was expressed, tests were carried out almost immediately.

Dr. David Tyler, head of the Department of Oral Biology at the university was asked to head the project and determine the best kind of materials to be used and the best method of identification of microdots within a tooth. The College of Engineering and the College of Veterinary Medicine are now also involved.

"Some people might think the subject is morbid, but rapid, unequivocal identification can minimize trauma for relatives of victims ..."

Dr. Ambrose's concept for utilization of the device encompassed not only disaster identification, but identification of all sorts of valuable objects. He pointed out there is an existing system now whereby cattle can be counted through the use of an implanted electronic device which emits a signal to a receiver carried by farmers keeping track of their herd.

Dr. Ambrose is anxious to gather support for the project and sees great possibilities for the university and manufacturing industries to co-operate in the effort. He sees this as particularly applicable in Saskatchewan, where there is already a great deal of co-operative effort between universities and industry.

"Dentists are among the most ingenious people in the world — in their interest and ability to think in detail," Dr. Ambrose said.

Although he admits the initial reaction is that "it's kind of a morbid

cation of burned or mutilated accident victims.

Hume did some research on the feasibility of the project in 1973. At that time, miniaturization was the difficult part. Hume devised a method — and for less than \$5,000.

"We really lucked into it. The excitement of maybe making a discovery got us both going," Dr. Samis said.

In 1974, plans for the device were shown to Canadian military officials and they were impressed, Dr. Samis said.

He formed a company, Identify Canada Limited, which holds the patent on the system and is the sole

tem is expected to be available in September.

Dr. Samis also pointed out the system's possible applications in other areas, such as identification of valuables and even animals.

Getting the research project under way at the University of Saskatchewan was the result of the efforts of Dr. E.R. Ambrose, dean of the College of Dentistry.

When Dr. Ambrose was dean at McGill, he met Dr. Samis and was "struck with the interesting aspects of his proposal."

Dr. Ambrose foresaw an even wider

forensic dentistry

business," it does not have to be such a negative concept.

Because forensic dentistry is a growing field and an emerging discipline, Dr. Samis believes no one can fail to recognize the problems inherent in the identification of accident victims. He feels this was brought home particularly following the crash of a DC-10 outside Paris in the early 70s.

"We think we have a solution to the problem," he said.

According to Dr. Samis an average of 55 to 72 per cent of identifications in such disasters are made on the basis of dental records. "We see getting that up to the 95 to 98 per cent range," he said, although no system will ever be 100 per cent efficient.

Dr. Samis also feels some people might think the subject is morbid, but says rapid, unequivocal identification can minimize trauma for relatives of victims.

Dr. Tyler described the current stage of the research and said the selection of materials and testing for their durability are the most urgent concerns.

The information chips, which are about one square millimeter in area and .6mm thick, will contain the victim's name and social insurance and the dentist's name and phone number.

This will provide immediate identification of an accident victim and dental records can be double-checked to ensure accuracy.

Dr. Tyler said the College of Engineering at the University of Saskatchewan created the engraver and is working on further refinements in micro-engraving methods and selection of the best materials for construction of the chips.

Durability testing will investigate micro-leakage, corrosion and the use of different materials for different applications.

He suggested that the material used on human teeth would not necessarily be the material best for identification of dentures, valuable animals or art objects.

Clinical trials are likely to begin this summer, Dr. Tyler said. A major push is on so that a presentation of the denture marking system can be made at the CDA Annual Convention in Calgary, this year.

The research group hopes to have the denture marking system "fairly well developed" for such a presentation, but "there's plenty of work to be done between now and then," Dr. Tyler said.

Dr. Tyler sees great value in the invention in terms of the "human side of things" — the settling of estates and the elimination of trauma. However, he also envisages much wider application in senior citizens' homes for denture identification and within "the whole industry of micro-identification."

He says there is still a dilemma over how to pinpoint the tooth that contains the microdot. Dr. Samis conceived of a uniquely shaped pin which would show up immediately in x-rays. However, not all dentists like pins and not all teeth need pins, he said.

Alternatives are being studied, along with a data bank system so agencies such as Interpol could have immediate access to a central clearing house.

"It's a Canadian invention," Dr. Tyler told the Journal. "Dr. Samis has to be complimented. He brought us a super idea. And, he's a private practitioner. It's a thrilling idea."

Dr. Tyler also sees exciting possibilities in being involved in a project with industrial application for manufacturing and distributing.

This is what universities should be working towards, he said.

Faculties

UNIVERSITY OF ALBERTA

... Class of 1961. 20th Reunion will be held in conjunction with the Canadian Dental Association Annual Convention in Calgary, August 30 to September 3. 1961 dental graduates are asked to look forward to a letter which will give full details.

UNIVERSITY OF MANITOBA

... Dr. Martin Lack, a 1981 graduate of the U of M orthodontic program, has received an Award of Special Merit from the American Association of Orthodontists in recognition of "excellence in research related to clinical orthodontics." Dr. Lack received the award for his thesis "An investigation into the three-dimensional force and movement characteristics of selected cuspid retraction mechanisms." His research was supervised by Professor Ken McLachlan of the Faculty of Engineering who also holds an adjunct professorship in the Department of Preventive Dental Science. Dr. Lack has been invited to receive his award and present a paper on his research at the 81st annual meeting of the American Association of Orthodontists in San Francisco, May 31, 1981.

UNIVERSITY OF BRITISH COLUMBIA

... Dr. Pierre Dow has been appointed to the Dental Admissions Committee and has been elected for a second term as the Vancouver and District representative to the B.C. College of Dental Surgeons. Dr. Gary Gibson has been appointed to the Curriculum Implementation Subcommittee. Dr. Leon Krintz has been appointed to the National Health and Medical Research Council Panel for Independent Assessors of Australia for 1981-82.

Profession must show concern over alternative funding

In Ontario, individual trade unions have established programs to purchase health care services directly from the providers on behalf of their members through benefit trusts. This alternative approach to self-insurance differs of course from the traditional funding for health, welfare and dental benefits.

In one case, a union has established a dental or union clinic in central Toronto to serve the dental needs of members and dependents who live in the Metropolitan area. Members are offered the option of attending the clinic for comprehensive dental services with few deductible or co-payment provisions, or attending their family dentist and receiving reimbursement for their dental expenses through an insurance carrier. Members of the union can freely choose which option to follow but must do so for a stipulated period of time.

The difficulty arises when future charges are not made to the indemnity prepaid program and it becomes an economic necessity for the members to attend the clinic and free choice is virtually eliminated because of economic factors.

Contributions are made to the benefit trust by the employers based on the earnings of the members. A certain pre-calculated portion of these benefit earnings is paid to the clinic on a per capita enrolled basis to pay to operate the clinic and provide dental care.

The cost of dental services provided cannot exceed the funds available without forcing the clinic into a deficit position.

It may at some point be necessary, on a cost containment basis, to limit the services provided. As many dental services are elective, this is relatively easy to do. The profession has to question, however, if it would be in the best interest of the patient to have the ad-

ministrators of the clinic advise the dentists that no crowns can be provided this month as funds are limited, especially as the patients do not now have the choice of going elsewhere unless they are willing to pay for the services directly and thus lose the advantage of their benefits.

If there are any financial setbacks, there is no assurance that dental care can be provided for the full duration of the contract period as the program is self-insured and the union is at risk directly, with no insurance company assuming the risk and with no requirements for the establishment of reserve funding.

Another option currently available to employee groups in Toronto is the closed panel capitation system.

Capitation dentistry is an alternative approach to the fee-for-service method of reimbursing the dentist for his services. It is a system by which the contracting dentist, assuming the financial risk, is compensated at a fixed per capita rate, usually on a monthly basis, in return for agreeing to provide specific, predetermined dental services as appropriate and necessary to eligible subscribers. Payments are based upon the number of persons eligible for dental treatment during a payment period, whether or not the enrollees use the dental services during that period. Patients are eligible for treatment under the plan only if they utilize contracting provider's of care.

Again, in this type of system, to make use of the benefit, the member must attend a particular treatment facility.

In a closed panel capitation system, the dentist virtually insures the risk directly. He has undertaken to provide certain services for a stipulated period of time to all eligible recipients in exchange for a certain periodic pay-

ment regardless of utilization patterns which may differ from those predicted.

If fewer patients use the system than predicted, the dentist "wins" and keeps the profits.

If more services than predicted are demanded, the dentist "loses". It is in this circumstance that the patient may lose as well. In this instance the economic interests of the dentist and the dental health care needs of the patient are diametrically opposed and patients cannot go elsewhere if they are not satisfied unless they wish to forego their benefits and purchase services elsewhere.

These are but two examples of systems which have been designed to self insure risk against dental expense.

The profession must have a number of concerns about such programs, as systems such as these are apparently not subject to current statutes governing insurance operations in Ontario and therefore receive no external scrutiny.

Such systems effectively prohibit users from attending dentists of their choice and may result, during financially difficult times, in subscribers receiving less than adequate dental care when they have, in effect, paid for a higher level of care.

To protect union members from the result of this action, the profession must strongly recommend that immediate steps be taken to bring all such benefit plans under the protective jurisdiction of the Superintendent of Insurance.

The regulations should be further amended to prohibit a dentist from acting as an insurer of dental care by accepting periodic payments in advance for services which may or may not be rendered unless some method can be designed which will ensure that

see page 150



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE
1815 ALTA VISTA DRIVE, OTTAWA, ONTARIO, CANADA K1G 3Y6
TELEPHONE (613) 523-1770

January 28, 1981

Dear Colleague:

I am contacting you, as a current or former supporting member from Canada, to urge you to review your membership in FDI for 1981. After the March 1981 issue, only those who renew their membership will continue to receive the Newsletter, and also it will be necessary to be a supporting member to attend the Congress in Rio de Janeiro, 4 - 10 September, 1981.

Registrants to FDI world congresses must be supporting members of the Federation. To be eligible for supporting membership, Canadian dentists must be members of the Canadian Dental Association.

The subscription fee is \$35 (Canadian) or in combination with a subscription to the International Dental Journal, \$60 (Canadian). We urge you to not only renew your membership but to encourage your colleagues to join FDI as well. Part of this fee will go to help meet the administrative expenses incurred by the Canadian Dental Association for the supporting membership program.

Your membership fee is your contribution in support of FDI in its effort to promote improved dental health on a worldwide basis through international exchange of scientific knowledge and expertise. The profession in Canada benefits from this exchange as do the less fortunate countries of the world.

Please return the enclosed slip with your remittance without delay to the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

Yours sincerely,

Gilbert Utas, D.D.S.
National Treasurer - Canada
Fédération Dentaire Internationale

CANADIAN DENTAL ASSOCIATION
1815 Alta Vista Drive, Ottawa, Ontario

MEMBERSHIP APPLICATION FEDERATION DENTAIRE INTERNATIONALE

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- To be part of your profession's voice in the international community
- Fees include, administration cost, U.S. premiums, CDA representation to FDI

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_____ Membership Card

_____ \$60 FDI Supporting Membership and Subscription to International Dental Journal

NAME _____

ADDRESS _____

THIS IS NOT A LICENCE FEE, this is your remittance for annual supporting membership, please return this form with your remittance payable to CDA; a receipt and membership card will be issued.



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE
1815 ALTA VISTA DRIVE, OTTAWA, ONTARIO, CANADA K1G 3Y6
TELEPHONE (613) 523-1770

1e 28 janvier 1981

Cher collègue,

Je vous demande, par la présente, de réexaminer, à titre de Canadien et d'abonné actuel ou ancien, votre abonnement au bulletin de la FDI pour 1981. Après le numéro du mois de mars 1981, seuls ceux qui auront renouvelé leur abonnement continueront de recevoir le bulletin. Par ailleurs, il est obligatoire d'être abonné au bulletin de la FDI pour pouvoir participer, du 4 au 10 septembre 1981, au congrès de Rio de Janeiro.

Pour participer aux congrès mondiaux de la fédération, il faut être membre de la FDI. Les dentistes canadiens peuvent y adhérer en devenant membres de l'Association dentaire canadienne.

Les frais d'abonnement sont de \$35 Canadiens pour le bulletin de la FDI ou de \$60 Canadiens pour le bulletin de la FDI et le Journal dentaire internationale. En plus de renouveler votre adhésion, nous vous exhortons d'encourager vos collègues de devenir aussi membres de la FDI. Une partie de ces frais servira à défrayer les dépenses administratives de l'Association dentaire canadienne à promouvoir ce programme de recrutement.

L'abonnement représentera votre contribution pour aider la FDI dans ses efforts d'encourager les soins dentaires à travers le monde, grâce à des échanges internationaux portant sur les connaissances scientifiques et les expériences. De tels échanges offrent au Canada autant d'avantages que peuvent en tirer les pays moins fortunés.

Veuillez renvoyer le feuillet ci-joint, accompagné de votre remise, à l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6.

Veuillez agréer, cher collègue, mes salutations les plus cordiales.

Gilbert Utas, DDS
Trésorier national au Canada
Fédération Dentaire Internationale

L'ASSOCIATION DENTAIRE CANADIENNE
1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6

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- Pour devenir un représentant de votre profession dans la communauté internationale
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_____ \$35 Membre de soutien de la FDI et abonnement au bulletin trimestriel.

_____ \$60 Membre de soutien de la FDI et abonnement au Journal dentaire internationale.

NOM _____ ADDRESS _____

CES FRAIS NE S'APPLIQUENT PAS AUX PERMIS D'EXERCER. Il s'agit d'un avis pour votre cotisation annuelle comme membre de soutien de la FDI. On vous prie de retourner ce formulaire rempli, avec un chèque ou un mandat payable à l'ADC; recevrez un reçu et votre carte de membre par le retour de courrier.

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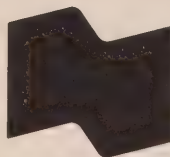
It doesn't matter whether you're a doctor, engineer, lawyer. When it comes to equipment, we have any number of solutions for you. And we've set up a special subsidiary to handle just that area.

Leased equipment is 100% tax deductible...but we do have term financing plans too. With excellent rates, full insurance coverage, even deferred payment and trade-in options.

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While you're at it, why not look into some of our other customized programs? Like computer salary service, credit card facilities, 24 hour deposit service, No Charge Chequing Account, purchasing and selling of securities and currencies, registered retirement savings plans, registered home ownership savings plans.

So pay your branch manager a visit. Give him a chance to expound a little on what we think are some pretty interesting business propositions.



**NATIONAL
BANK
OF CANADA**

A better way to bank

Alternate funding

from page 148

the dentist can honour the agreement irrevocably.

Only in this way will the basic objective of better dental health for all be achieved.

In conclusion, it's apparent that each province will have to make appropriate recommendations in order to achieve our common objective.

The Ontario Dental Association recently presented a brief to the Ontario Select Committee On Company Law from which the following three recommendations were selected:

"That closed panel capitation methods or providing benefits be prohibited unless members of the subscriber group are offered a periodic choice between that plan and an indemnity type plan which offers the same benefits."

"That all dental benefit plans be subject to the jurisdiction of the Superintendent of Insurance, Province of Ontario."

"That a dentist or group of dentists be prohibited from acting as an insurer of dental care by accepting periodic payments in advance for services which may or may not be rendered unless methods are designed which will ensure that the agreement can be honoured irrevocably."

Recall on oxygen kits

OTTAWA — Health and Welfare Minister Monique Bégin has issued a warning that emergency portable oxygen kits, manufactured by Green Cross Solid State Oxygen Incorporated of Dania, Florida, deliver insufficient amounts of oxygen and should not be used.

The devices have been marketed throughout Canada since 1978 and were purchased for both public and private use.

"My department has tested 20 of the emergency oxygen units and found that two produced no oxygen and 17 produced far less oxygen than is required to be effective or than is claimed on the label," said Bégin. The units claim to produce a flow rate of more than six litres of oxygen

per minute for a minimum of 15 minutes.

The Minister added that since the American manufacturer is out of business and could not initiate a recall, her department was issuing a public warning. Two Canadian distributors of the product, Safety House of Canada Ltd. and Rival Manufacturing Co. of Canada Ltd., are also attempting to contact anyone who purchased the oxygen kits from them.

Dentists who own a Green Cross Solid State emergency oxygen kits are advised to release as much oxygen as possible and consult their local refuse collection service regarding safe disposal of the unit.

Provinces

SASKATCHEWAN . . . Dr. L.J. Conn of Wolseley, Saskatchewan has been awarded a Life Membership in the College of Dental Surgeons. Forty Year Service Plaques were presented to Dr. P.L. Bayoff, Meadow Lakes, Saskatchewan and Dr. K. Epstein, Saskatoon. All presentations were made during the most recent meeting of Council of the College of Dental Surgeons of Saskatchewan. Dr. E.W. Zak is president of the College for 1981.

BRITISH COLUMBIA . . . Dr. Fred Reid of North Vancouver has been appointed to the Board of Trustees of the Canadian Fund for Dental Education. Dr. Reid was president of the Canadian Dental Association in 1974, 1975 and is a past president of the former British Columbia Dental Association.

Societies

Canadian Association of Oral and Maxillofacial Surgeons . . . Applications for membership should be received prior to July 1, 1981. For further information contact Dr. George White, secretary, CAOMS, 301-247 Simcoe Street, North, Oshawa, Ontario L1G 4T3.

Fourth Canadian Congress of Children's Dentistry . . . will be held in Toronto, June 5 to 7. Topics scheduled include malignant hyperthermia, patient management and a panel discussion on Hepatitis. Proposed clinicians are Dr. Stephen Wei and Dr. Dennis Smith. The program is jointly sponsored by the Canadian Society of Dentistry for Children; CSDE Ontario Chapter; Canadian Academy of Pedodontics; British Columbia Society of Pediatric Dentists; and Le syndicat professionnel des pedodontistes dentistes du Québec. For further information contact Dr. Keith Tittley, 48 Cleveland Street, Toronto, Ontario M4S 2W2.

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Facts of dental disease focus of NDHM

Most Canadian children and adults have some form of periodontal disease and 96 per cent of children will have some tooth decay by the age of 15.

These facts bring home the significance of National Dental Health Month, which is set for April.

The theme this year is "Good Mouthkeeping" and the national chairman is Dr. Michel Carvonis of Hull, Quebec.

Posters and decals promoting the theme are available and the Canadian Dental Hygienists' Association is producing lapel buttons.

Radio and television announcements will emphasize the need for proper eating habits and good oral hygiene for all, with particular focus on children.

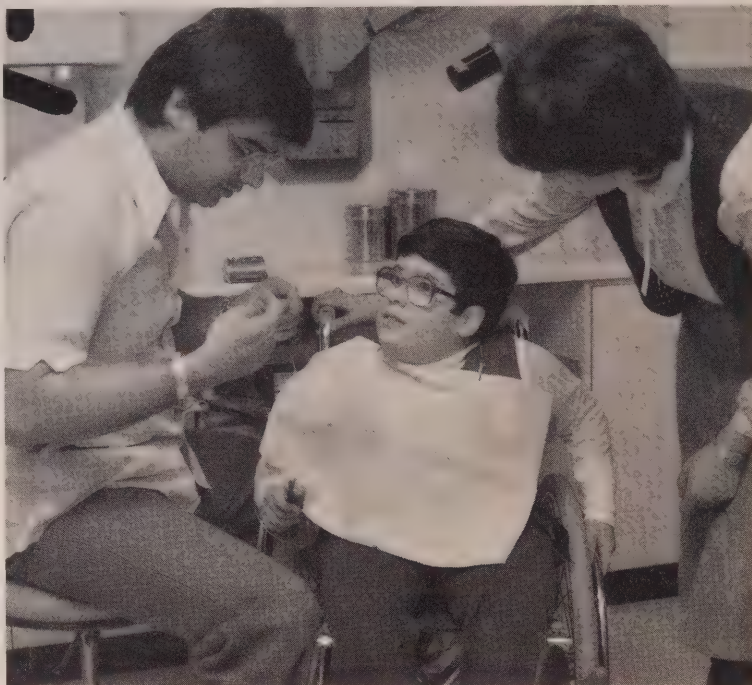
Elementary school children will be able to actively participate in the campaign through the poster contest and three winners will receive bicycles. Entries will be judged in three categories — Kindergarten to Grade 1; Grades 2 — 4; and Grades 5 — 7.

Provincial chairmen will be respon-

sible for a variety of activities in their own areas to expand the scope of the campaign.

All dentists can participate actively

in National Dental Health Month by contacting the Canadian Dental Association or their provincial and local organizations.



National Dental Health Month Chairman Dr. Michel Carvonis, left, shows Marc Davis and his mother Francoise the proper way to handle dental floss. Marc, nine years old, is a student at the Crippled Children's Treatment Centre in Ottawa.

Thanks from Britain

As Journal readers are no doubt aware, 1980 was the Centenary Year of the British Dental Association. In honor of that event, the Canadian Dental Association presented the BDA with an Eskimo carving. Dr. R.B. Allen, secretary of the British group, wrote to say "the sculpture is a welcome addition to the gallery on the first floor of our building since it is the only piece of sculpture, other than a bronze of our first president Sir John Tomes, which we possess."

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on January 31, 1981:

<i>Common Stock Fund</i>	\$55.299
<i>Fixed Income Fund</i>	\$24.221
<i>Guaranteed Fund</i>	\$19.171
<i>Balanced Fund</i>	\$12.887

Total assets (market value) of the plan were \$33,875,234.

The previous month's figures, as of December 31, 1980, stood as fol-

lows:

<i>Common Stock Fund</i>	\$54.869
<i>Fixed Income Fund</i>	\$24.063
<i>Guaranteed Fund</i>	\$18.954
<i>Balanced Fund</i>	\$12.766

Total assets (market value) of the plan were \$33,922,230.

For further information write to: Canadian Dental Service Plans Inc., P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

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- ... 134 teaching fellowships for dentists to ensure the availability of qualified teachers

- ... funding of annual dental students' conferences

- ... funding of annual student table clinic programs

- ... 40 teaching fellowships for dental hygienists to ensure the availability of qualified teachers

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In the News

Can you help solve this history mystery?



Dr. John McMullen of Fredericton, New Brunswick recently sent the above photograph to the Journal. It had been given to him by his dental assistant, Kim McKinnon.

"Obviously it is a dental school somewhere in Canada or the United States," wrote Dr. McMullen. "Probably the U.S."

The picture was found in the New Brunswick Provincial Archives and was part of the "Allison Prints." A lawyer named Allison from Sussex, New Brunswick is presumed to have taken the photograph as early as 1873

or as late as 1924. "Not much later," suggested Dr. McMullen. "My father, Dr. J.C.S. McMullen, who graduated in 1931, says it was well before his time."

The writing on the blackboard indicates the day was "Thursday, October 30th" but the year and location of the school are unknown. Can anybody help in this history mystery?

Notice of Award

The Canadian Dental Research Foundation (CDRF) encourages research related to dentistry conducted by graduate or post-graduate students in Canada. A prize of \$1,000 is made available annually and presented to the student who submits the best report on a research project. Rules and entry forms can be obtained from the executive director, CDA, 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6. Entries should be submitted not later than December 1st.

Dixter, C. Langlais, R.P.,
and Lichty, G.C.

Pediatric Radiographic Interpretation

*Exercises in Dental Radiology
Volume III*
W.B. Saunders Co., 1980
271 pages, \$22.20

There are 10 sections in this book and each presents radiologic information followed by questions. The questions relate

not only to the radiologic interpretation, but also to various clinical considerations. Answers to all questions are included in an appendix. The following sections are covered in this book: 1. Normal anatomy and buccal object rule; 2. Film handling errors; 3. Developmental problems; 4. Eruption problems; 5. Early radiographic indications of crowding in the permanent arch; 6. Mixed dentition analysis; 7. Cephalometric analysis; 8. Trauma; 9. Temporomandibular joint disorders; and 10. Pathology and review cases.

The radiographs illustrated are of good quality. The questions accompanying the radiographs are well conceived. The answers supplied are mature and authoritative.

The authors are to be congratulated for their excellence in the preparation of this book. I recommend it highly for undergraduate students, postgraduate students and practitioners in both general and pedodontic practices.

Oral radiological services

*A publication of Health and Welfare
Canada Ottawa*
108 pages

The report is to be commended for its usefulness to both the profession and the public.

There are, however, a few minor areas of concern.

The report suggests students should come in contact with the field of Oral Radiology in their first year of study. This perhaps should be tailored to the requirements of individual universities.

While the use of complete mouth x-ray series during initial examination should not be routine, the fact that it is done should also not be seen as bad policy. In some parts of the report, in fact, it suggests the prevalence of dental disease and diseases of the oral cavity make radiographic examinations more productive than other types of examinations.

This was a job well done, considering the nature of the problem being dealt with.

This review was prepared from notes made by Dr. Axel Ruprecht, secretary-treasurer of the Canadian Academy of Oral Radiology.

Copies of the report are available from Health and Welfare Canada.

N.J.D. Smith

Dental Radiology

*Blackwell Scientific Publications
1980
132 pages, \$28.25*

Dental Radiology is divided into three main sections. The first section deals with the basic principles of x-ray production, the general feature of x-ray equipment and radiation hazards and protection. The second section deals with intraoral radiography. Bitewing, periapical (both paralleling and non-paralleling techniques) and occlusal projections are discussed. The third section deals with more advanced x-ray techniques. It includes chapters on panoramic radiography, tomography, cephalometric radiography, sialography and the standard projections used to show fractures of the maxillo-facial complex.

Although this book was not intended to be comprehensive, it does provide an excellent outline of the fundamental concepts necessary for a thorough understanding of the material presented. The book is intended primarily for the use of the dental student, but I would consider it a very helpful book for the graduate dentist.

"Exercises in Dental Radiology" and "Dental Radiology" were reviewed by: S.M. Fireman, DDS, MScD, Toronto, Ontario.

Brewer and Morrow

Overdentures

Second Edition
C.V. Mosby 1980
426 pages, \$47.50

In keeping with the increasing acceptance of the overdenture in modern dentistry, this second edition by these recognized authorities is much more than an enlarged version of their initial 1975 publication. Not only has the scope of the previous material been enhanced, but a new section on recent developments in overdenture therapy has been added. Further, a competent chapter on nutritional analysis and dietary counselling has been inserted. It is refreshing to see authors in our profession approach dieticians for advice in these areas. It is very well done. The recognition of the patient's role in the success or failure of this prostheses is emphasized in another addition under the heading of post-insertion instructions and complications. The patient's role in preserving the important tissue health status is well presented and clearly illustrated. It should be a big help in defining the goal for which an inexperienced practitioner should aim.

In the section on recent developments some new methods, currently in use, but unproven by time, are explored. One of the most interesting of these is the concept of the submucosal vital root retention. The idea of maintaining the residual ridge by use of a submerged root in its natural state, endodontically untreated, is a frightening proposition for an endodontist, but none the less seems

to present some promise. (It certainly would show merit in cases where oral hygiene could present a problem.)

Finally, the book has an unusual and innovative appendix listing the materials used for overdenture therapy and where to get them. This should remove a lot of the frustration of being challenged with a new series of concepts and not knowing where to purchase the necessary products.

There is no question that in their new edition Brewer and Morrow have given the profession a clear, well illustrated book that will remove many of the mysteries of overdenture prosthesis for the general practitioner.

"Overdentures" was reviewed by Pierre R. Dow, DDS, MSc, FRCD, associate professor, Faculty of Dentistry, University of British Columbia.

E. Lloyd DuBrul

Sicher's Oral Anatomy

The C.V. Mosby Company
Toronto, Ontario
572 pages, \$35.50

This textbook is the seventh edition of texts that have spanned 52 years. The first four were written by professor Harry Sicher and editions five and six by professor Sicher and professor DuBrul. This seventh edition is by professor DuBrul. Professor DuBrul, in the

first part of the text, has attempted to present the detailed structural anatomy as a functional unit. Professor DuBrul has achieved this objective and at the same time included meaningful additional material. This additional material is most useful to the student beginning in anatomy and as a refresher for the practising health professional.

For the student in graduate studies, specific augmentative texts would be required. As a good textbook of anatomy, as this is, it cannot be expected to be exhaustive in specific details as might be required of students of Oral and Maxillofacial Surgery, Orthodontics, Neurophysiology, etc.

Part II of regional and applied anatomy is most helpful and generally very well done. Diagrams of most sections are good and complete. The method of presentation and descriptions in Chapter 14. Propagation of Dental Infections, are good but it is felt that additional diagrams would be helpful.

Although the surgical description of a tracheostomy indicates the preferred horizontal skin incision the diagrams depict a vertical incision. The power of visual impact of diagrams might indicate preference for depiction of the preferred horizontal incision.

In summary, this significantly revised textbook remains a classic in Oral Anatomy in its broadest context. It is still one of the most comprehensive textbooks in Oral Anatomy and is recommended for all students in the health professions and practising health professionals who would and should wish to refresh their working knowledge of basic anatomy.

"Sicher's Oral Anatomy was reviewed by Dr. Frank W. Lovely, DDS, MS, FRCD (C), professor and head, Division of Oral & Maxillofacial Surgery, Faculty of Dentistry, Dalhousie University, Halifax, Nova Scotia

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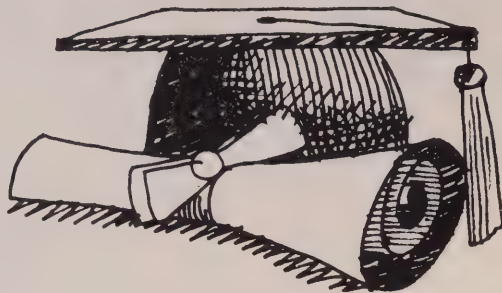
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Un véhicule destiné à valoriser les réalisations
et le prestige de la profession.

Le mois national de la santé dentaire

La plupart des enfants et des adultes canadiens sont affectés d'une façon ou d'une autre par la parodontie et 96 pour cent des enfants auront des caries avant d'avoir atteint 15 ans.

Ces faits soulignent l'importance du Mois national de la santé dentaire qui est fixé en avril.

Cette année, le thème adopté est: "Un sourire, un ami" et la campagne est présidée par le Dr Michel Carvonis de Hull (Québec).

Des affiches et des décalques faisant valoir le thème sont actuellement disponibles. Quant à l'Association des hygiénistes dentaires canadiens, elle se charge de fournir des macarons.

Des annonces présentées à la radio et à la télévision insisteront sur la nécessité d'entretenir de bonnes habitudes d'hygiène buccale.

Les enfants du primaire auront la chance de participer à la campagne grâce au concours d'affiches. Trois

gagnants recevront chacun une bicyclette en cadeau. Le concours prévoit trois catégories: les enfants des maternelles et de première année, ceux de la deuxième à la quatrième année et ceux de la cinquième à la septième année.

Afin de donner plus d'envergure à la campagne, les présidents provinciaux

seront chargés de diverses activités dans leurs régions respectives.

Tous les dentistes peuvent participer activement au Mois national de la santé dentaire. Il leur suffit de communiquer avec l'Association dentaire canadienne ou bien avec leur association dentaire provinciale ou locale.

Centenaire de l'ADGB

Nos lecteurs savent sans doute que 1980 marquait le centenaire de l'Association dentaire de la Grande-Bretagne. À cette occasion, l'Association dentaire canadienne a présenté à l'association britannique une sculpture esquimaude. Le Dr R.B. Allen, secrétaire de cette association, a écrit, di-

sant: "La sculpture orne la galerie du premier étage de notre immeuble. Nous l'apprécions d'autant plus que c'est la seule sculpture que nous possédons, abstraction faite d'un bronze de notre premier président, Sir John Tomes."

Trousses d'oxygène d'urgence

OTTAWA — La ministre de la Santé nationale et du Bien-être social, Monique Bégin, a averti les Canadiens que les trousses portatives d'urgence d'oxygène, fabriquées par la *Green Cross Solid State Oxygen Incorporated* de Dania, en Floride, laissaient s'échapper des quantités insuffisantes d'oxygène et qu'on ne devrait plus les utiliser.

Ces appareils sont commercialisés au Canada depuis 1978 et servaient tant à des fins publiques qu'à des fins privées.

"Mon Ministère a éprouvé 20 de ces trousses d'urgence et découvert que deux ne produisaient pas d'oxygène du tout et 17 une quantité bien inférieure à celle qui est requise pour être efficace ou qui est mentionnée sur l'étiquette", a indiqué Mme Bégin. D'après l'étiquette, l'appareil devrait produire plus de six litres d'oxygène par minute pendant un minimum de 15 minutes.

La Minsitre a précisé que ce manufacturier américain s'était maintenant retiré des affaires et qu'il ne pouvait donc faire l'objet d'un rappel. C'est

pourquoi le Ministère publie cet avertissement. Deux distributeurs canadiens, *Safety House of Canada Ltd.* et *Rival Manufacturing Co. of Canada Ltd.*, tentent également de rejoindre des clients qui leur auraient acheté ces trousses d'oxygène.

Les dentistes qui ont de telles trousses d'urgence de la *Green Cross Solid State* sont priés de laisser s'échapper le plus d'oxygène possible de la bonbonne et de communiquer avec leur service de cueillette des ordures ménagères afin d'en disposer en toute sécurité.

Microplaquette et micro-identification

Un beau jour, un dentiste et un ingénieur conseil se rencontrent pour un simple déjeuner et soudain prend forme un projet canadien qui sera une innovation.

Cela se passait en juillet 1973. Le Dr Philip Samis, dentiste montréalais, après avoir lu un article du Journal de l'ADC qui portait sur la manière d'identifier les victimes d'accident, en discutait avec un dénommé Franck Hume. Le Dr Samis songeait à une méthode pour identifier les dents, mais l'idée n'existait alors qu'à l'état virtuel dans son esprit et il obtint de son camarade qu'il l'aiderait à la réaliser avec ses connaissances techniques.

Il en est résulté la microplaquette en céramique thermorésistante que l'Université de la Saskatchewan est à mettre au point actuellement. Le dispositif peut être implanté sous une obturation pour une identification rapide des cadavres calcinés ou mutilés.

En 1973, Hume entreprit des recherches pour voir si le projet était réalisable. À cette époque, la miniaturisation posait des difficultés, mais pour moins de 5000\$, il découvrit bientôt une méthode.

"Nous avons eu beaucoup de chance," de déclarer le Dr Samis, "et l'idée de faire peut-être une découverte nous a encouragés tous deux à poursuivre nos recherches."

En 1974, des officiers des Forces armées prirent connaissance des plans du dispositif et en furent très impressionnés.

Aussitôt, le Dr Samis forma une

compagnie, la firme *Dentify Canada Limited*, qui prit un brevet pour cette invention et qui est restée le seul organisme à financer la recherche en rapport avec ce projet. Cependant, l'appui local fut toujours excellent.

Par la suite, le Dr Samis fit paraître un article dans le Journal de la Société canadienne des sciences judiciaires et il discuta de son projet avec des inventeurs suisses qui avaient déjà un appareil semblable sur le marché.

Cependant, de commenter le Dr Samis, l'appareil suisse a des possibilités limitées parce qu'il exige une base de données et que le nombre de sujets qu'on peut y inclure n'est pas aussi élevé que celui que son dispositif peut admettre.

Certes, c'est le Dr Samis qui a eu l'idée de cette invention, mais pour en trouver des applications sur le marché, il faut plusieurs personnes. En effet, "le vrai combat se livre sur le marché," a-t-il noté.

On s'attend à ce que, dès septembre prochain, soit mis sur le marché un système accéléré pour identifier les dentures.

Le Dr Samis s'est empressé de faire remarquer que le système pourrait avoir d'autres applications comme, par exemple, l'identification des objets de valeur ou même des animaux.

Le projet fut mis en oeuvre à l'Université de la Saskatchewan grâce aux efforts du doyen de l'École dentaire, le Dr E.R. Ambrose.

Celui-ci, lorsqu'il était doyen à l'Université McGill, a rencontré le Dr Samis et il fut vite frappé par les

immenses possibilités qu'offrait la découverte de son confrère. Il entrevit même, et plus que le Dr Samis ne l'avait d'abord imaginé lui-même, qu'elle pouvait s'appliquer à l'échelle mondiale. En effet, le Dr Ambrose a immédiatement réalisé que, s'ils se montraient assez avisés tous deux, un centre informatique pourrait être établi au Canada et attiré l'attention du monde entier.

À l'Université McGill, le temps et la main-d'oeuvre faisaient défaut, ce qui ne permit pas de donner suite au projet. Toutefois, quand il partit pour la Saskatchewan, le Dr Ambrose l'emporta avec lui. Il invita le Dr Samis à venir en faire un exposé et, une fois l'intérêt soulevé, on procéda à des essais presque immédiatement.

Le Dr David Tyler, chef du département de biologie buccale à l'Université, fut invité à diriger le projet en déterminant quels seraient les meilleurs matériaux à utiliser et la meilleure façon d'identifier la microplaquette dans une dent. Participent aussi au projet maintenant le Collège des ingénieurs ainsi que le Collège de médecine vétérinaire.

Le Dr Ambrose comprit bientôt que le dispositif pouvait être utilisé pour identifier non seulement les victimes méconnaissables, mais aussi toutes sortes d'objets de valeur. Il a fait observer qu'il existe un système qui permet de compter les bestiaux grâce à un appareil électronique qu'on implante en eux et qui émet un signal capté par un appareil récepteur. En peu de temps, les éleveurs peuvent ainsi retracer leurs troupeaux et les dénombrer.

Le Dr Ambrose a hâte d'obtenir plus d'appui pour le projet et il entrevoit de grandes possibilités pour l'Université et les manufacturiers qui lui apporteront leur collaboration. La chose est faisable en Saskatchewan surtout, pense-t-il, puisque déjà l'Université et les industries joignent leurs

\$1000 en prix FRDC

La Fondation pour la recherche dentaire au Canada encourage la recherche pertinente à la dentisterie conduite au Canada par des étudiants gradués ou post-gradués. Chaque année, l'étudiant qui soumet le meilleur rapport de recherche gagne un prix de \$1 000. Les formules d'inscription ainsi que les règlements peuvent être obtenus du Directeur Exécutif de l'ADC, 1815 Alta Vista Drive, Ottawa, Ontario, K1G 3Y6. Le 1er décembre constitue la date limite d'inscription.

efforts pour certains projets.

"Les dentistes sont parmi les gens les plus ingénieux du monde, en ce qu'ils s'intéressent aux détails et sont capables de s'y appliquer," a noté le Dr Ambrose.

Il est vrai qu'à l'abord, "il s'agit d'une affaire plutôt morbide," mais il n'est pas nécessaire de s'arrêter plus qu'il ne faut à son aspect négatif.

Aujourd'hui, la dentisterie judiciaire prend de l'importance et c'est une discipline qui s'impose. Aussi le Dr Samis croit-il que les problèmes que pose l'identification des victimes d'accident ne peuvent échapper à personne. Ce fut le cas particulièrement au début des années '70, quand un avion DC-10 s'écrasa non loin de Paris.

"Nous croyons avoir une solution au problème," a-t-il déclaré. En effet, une moyenne de 55 à 77 pour cent des identifications en pareil cas sont rendues possibles grâce aux dossiers dentaires. "Cette moyenne pourrait atteindre de 95 à 98 pour cent, pensons-nous," a-t-il ajouté, tout en reconnaissant qu'aucune méthode ne sera jamais totalement efficace.

Le Dr Samis n'ignore pas, lui non plus, que certaines gens ne verront que le côté macabre du projet. Cependant, a-t-il noté, une identification rapide et sûre pourra diminuer le choc subit par les parents des victimes.

Pour sa part, le Dr Tyler a fait état du progrès des recherches, soulignant que le choix des matériaux et les tests effectués pour éprouver leur résistance étaient ce qui pressait le plus.

Il s'agit d'une plaquette de renseignements d'environ un millimètre carré et de six dixièmes de millimètre d'épaisseur qui contient le nom du sujet, son numéro d'assurance sociale ainsi que les noms et numéros de téléphone de son dentiste.

Grâce à cette plaquette, on pourra identifier immédiatement les victimes d'accident et on pourra effectuer une seconde vérification au moyen des dossiers dentaires afin de s'assurer que

l'identification est bien exacte.

Le Collège des ingénieurs de l'Université de la Saskatchewan a déjà, de dire le Dr Tyler, inventé une machine à graver. Il essaie maintenant d'améliorer davantage ses méthodes de micro-gravure et de trouver le meilleur matériau possible pour les plaquettes.

Les tests effectués portent sur les fuites imperceptibles, sur les possibilités de corrosion et sur l'usage de différents matériaux en vue de différentes applications.

À propos de ce dernier point, le Dr Tyler a fait remarquer que le matériau utilisé pour les dents humaines ne sera pas nécessairement le meilleur pour l'identification des dentiers, des animaux précieux ou des objets d'art.

Les essais cliniques débiteront probablement cet été, a-t-il dit. Un effort majeur est entrepris dans l'espoir que le système pour identifier les dentiers soit présenté au congrès annuel de l'ADC, à Calgary, cette année.

L'équipe des chercheurs espère que le système sera suffisamment au point pour une telle présentation, mais, a avoué le Dr Tyler, il reste beaucoup de travail à faire d'ici là.

Par ailleurs, le Dr Tyler croit que l'invention présentera de grands avantages du côté humain, soit le règlement des héritages et la suppression de

certains traumatismes. Cependant, il considère des applications pratiques plus nombreuses touchant l'identification des dentiers dans les maisons de vieillards et touchant toute l'industrie de la micro-identification.

De plus, a-t-il noté, il reste un problème relatif à la façon d'indiquer avec précision la dent qui contiendra la microplaquette. Le Dr Samis avait pensé à un tenon façonné d'une manière particulière qu'une radiographie révélerait immédiatement. Malheureusement, cette solution ne plaît pas à tous les dentistes et ce ne sont pas toutes les dents qui ont besoin de tenons.

Présentement, on étudie des solutions de rechange, y compris une banque de données de manière à ce que des services comme l'Interpol aient un accès immédiat à un bureau central.

"Il s'agit d'une intervention canadienne," a déclaré fièrement le Dr Tyler au Journal. "Le Dr Samis a droit à nos félicitations. Comme praticien privé, il a eu une idée géniale et absolument passionnante."

Tout comme le Dr Ambrose, le Dr Tyler voit plusieurs possibilités intéressantes à participer à un projet qui aura des applications commerciales de fabrication et de distribution.

C'est le but que devrait se fixer toute université, a-t-il conclu.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 janvier 1981:

<i>Fonds d'actions ordinaires</i>	\$55.299
<i>Fonds à revenu fixe</i>	\$24.221
<i>Fonds garanti</i>	\$19.171
<i>Fonds de placement équilibré</i>	\$12.887

L'avoir total (valeur marchande) du régime s'élevait à \$33,875,234.

Au 31 décembre 1980, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$54.869
<i>Fonds à revenu fixe</i>	\$24.063
<i>Fonds garanti</i>	\$18.954
<i>Fonds de placement équilibré</i>	\$12.766

L'avoir total (valeur marchande) du régime s'élevait à \$33,922,230.

Pour obtenir tout renseignement supplémentaire, prière de s'adresser aux: Régimes des rentes et d'assurances subventionnés par l'ADC, P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

Désavantages des assurances dentaires

En Ontario, des associations ouvrières privées ont mis sur pied des programmes en vue d'acheter, au nom de leurs membres, des services médicaux directement des fournisseurs. Bien entendu, cette nouvelle façon de se procurer des assurances diffère du mode conventionnel d'obtenir des garanties pour les soins médicaux et dentaires.

Au centre de Toronto, par exemple, une association a établi une clinique dentaire ou syndicale qui répond aux besoins dentaires de ses membres et de leurs personnes à charge habitant la région métropolitaine. Les membres ont le choix entre deux régimes: ou bien ils reçoivent gratuitement, sauf pour les sommes prévues en franchise ou soumises à la règle proportionnelle, tous leurs soins dentaires à la clinique, ou bien ils les reçoivent de leur dentiste de famille qu'ils paient eux-mêmes, quitte à être remboursés par la suite par un assureur. Les membres sont entièrement libres de choisir l'un ou l'autre régime, mais ils doivent indiquer leur choix dans un temps donné.

Un problème se pose lorsque les frais prévus pour l'avenir ne sont pas imputés au régime d'assurance. Pour répondre à une nécessité économique, les membres sont alors obligés de se présenter à la clinique, ce qui élimine pratiquement tout choix pour eux.

Les contributions de l'employé au régime sont basées sur son salaire. Déterminée au préalable, une partie de ces primes est versée à la clinique en proportion du nombre d'employés qui choisissent de s'y faire soigner. Ce sont ces sommes qui permettront à la clinique de fonctionner et de prodiguer des soins dentaires.

Il va de soi que le coût des soins dentaires donnés ne doit pas excéder les fonds disponibles, sinon la clinique accusera un déficit.

C'est pour cette raison qu'il peut parfois être nécessaire, dans le but de contrôler les dépenses, de limiter les services. Le fait que plusieurs soins dentaires sont facultatifs facilite considérablement les choses. Toutefois, la profession dentaire se demande s'il est dans le meilleur intérêt du patient que les responsables de la clinique lui disent qu'ils ne peuvent, par exemple, lui poser une couronne ce mois-ci parce que les fonds sont insuffisants. En effet, il faut penser que le patient ne peut aller voir un autre dentiste, à moins qu'il ne soit disposé à payer lui-même ce dernier, perdant ainsi tous les avantages que lui offrait le régime.

S'il y a des déficits, il n'est pas assuré que des soins dentaires seront prodigués pendant tout la durée du contrat, étant donné que le régime d'assurance se finance par ses propres moyens et que le tout est au risque de l'association ouvrière même. En effet, il n'y a aucune compagnie d'assurance pour absorber les pertes possibles et rien n'exige qu'un fonds de réserve soit créé.

Un autre choix offert actuellement aux groupes d'employés torontois, c'est la répartition des coûts dentaires selon un régime de capitation.

La dentisterie fondée sur un tel régime est une autre façon de payer le dentiste pour les services qu'il rend. Dans ce cas, le dentiste contractant assume les risques financiers moyennant une cotisation fixe par individu, habituellement calculée mensuellement. Il accepte en retour de prodiguer, aux personnes admissibles, des soins dentaires spécifiques, déterminés au préalable, selon les besoins et les nécessités. Les frais sont calculés en fonction du nombre de personnes admissibles durant une certaine période donnée, et ce, que celles-ci reçoivent ou non des soins dentaires durant cette période. Les patients sont ad-

missibles à ce régime à la condition expresse qu'ils se feront traiter par le dentiste contractant. De plus, ils doivent se présenter à un cabinet particulier.

Avec le régime de capitation, c'est le dentiste qui, tout compte fait, assume directement les risques. Il est convenu de fournir certains services pendant une période de temps déterminée à tous les membres admissibles en échange d'une certaine somme, et ce, nonobstant le nombre des services et la manière de les donner qui peuvent différer de ce qui a été prévu.

Si les patients sont moins nombreux que prévus, le dentiste est "gagnant" et il enregistre des profits. Par contre, si le nombre des services est plus élevé que prévu, le dentiste est "perdant". Dans ce cas, le patient peut être perdant aussi. En effet, les intérêts économiques du dentiste s'opposent diamétralement aux besoins dentaires du patient et celui-ci, s'il n'est pas satisfait, ne peut s'adresser à un autre dentiste, à moins qu'il ne soit disposé à perdre ses avantages et à acheter des services ailleurs.

Ce sont là deux exemples de régimes qui ont été conçus afin que le patient s'assure contre les dépenses dentaires.

La profession doit faire cas de ces régimes, étant donné qu'ils ne sont pas soumis aux lois qui régissent présentement les assurances en Ontario et que, de ce fait, ils ne sont pas l'objet d'examen extérieurs.

En réalité ces régimes empêchent l'adhérent de voir le dentiste de son choix et, lorsqu'arrivent des périodes difficiles financièrement, il se peut que le patient reçoive des soins moins qu'adéquats quand, en fait, il a payé pour en obtenir de qualité supérieure.

Dans le but de protéger les membres des associations syndicales contre ces

suite page 168

Des prêts conçus pour les professionnels.

**La Banque Nationale offre
plusieurs types de prêts s'adaptant
aux besoins particuliers des professionnels.**

Prêts pour fins professionnelles

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Peu importe votre profession, peu importe le type d'équipement dont vous avez besoin, nous nous en occuperons. Nous avons une filiale spécialisée dans ce domaine dotée d'une équipe d'experts. Nous pouvons vous louer de l'équipement dont le coût est entièrement déductible de l'impôt.

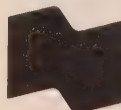
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**BANQUE
NATIONALE**

Assurances dentaires

suite de la page 166

désavantages, la profession doit recommander fortement que des mesures soient prises immédiatement afin que tous ces régimes relèvent de l'autorité du surintendant des assurances et que celui-ci puisse les contrôler.

En outre, le règlement devrait être amendé de manière à empêcher un dentiste d'agir comme assureur de soins dentaires en acceptant des paiements périodiques anticipés pour des services qu'il pourra ou ne pourra pas rendre, à moins qu'on puisse trouver un moyen qui garantira que le dentiste respectera obligatoirement ses engagements.

C'est seulement de cette façon que l'objectif fondamental, à savoir une meilleure santé dentaire pour tous, sera atteint.

Pour conclure, il est évident que chaque province aura à faire des recommandations appropriées afin que nous arrivions à notre but commun.

À titre d'exemple, citons l'Association dentaire de l'Ontario qui, dernièrement, présentait un mémoire à la Commission d'enquête sur les lois des compagnies de l'Ontario. Nous en tirons les trois recommandations suivantes:

"Les régimes de capitation sont des moyens de fournir des assurances qu'il

faut interdire, à moins que les membres participants aient périodiquement la possibilité de choisir entre ce régime et un autre régime d'assurance qui présente les mêmes avantages."

"Tous les régimes d'assurance dentaire doivent être soumis à l'autorité du surintendant des assurances de l'Ontario."

"On doit interdire à un dentiste ou à un groupe de dentistes d'agir comme assureur de soins dentaires en acceptant des paiements périodiques anticipés pour des services qu'il pourra ou ne pourra pas rendre, à moins de trouver des moyens pour assurer que les engagements seront obligatoirement honorés."

F.D.I.

RIO de JANEIRO

Septembre 1981

Bienvenue à Rio pour la Conférence de la Fédération Dentaire Internationale 1981. Nous pouvons vous offrir des tours avant ou après la conférence. Nous avons aussi pour vous tous les documents nécessaires à l'enregistrement.

VOUS ADRESSER À:



September 1981

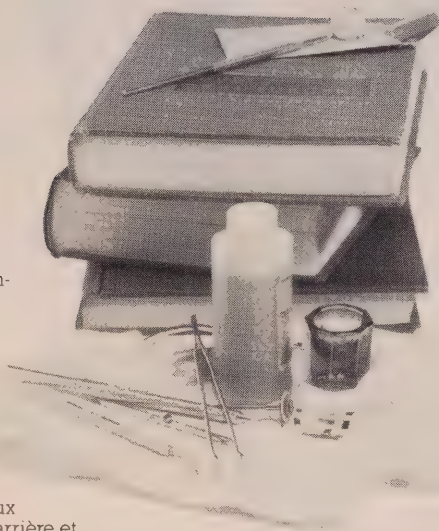
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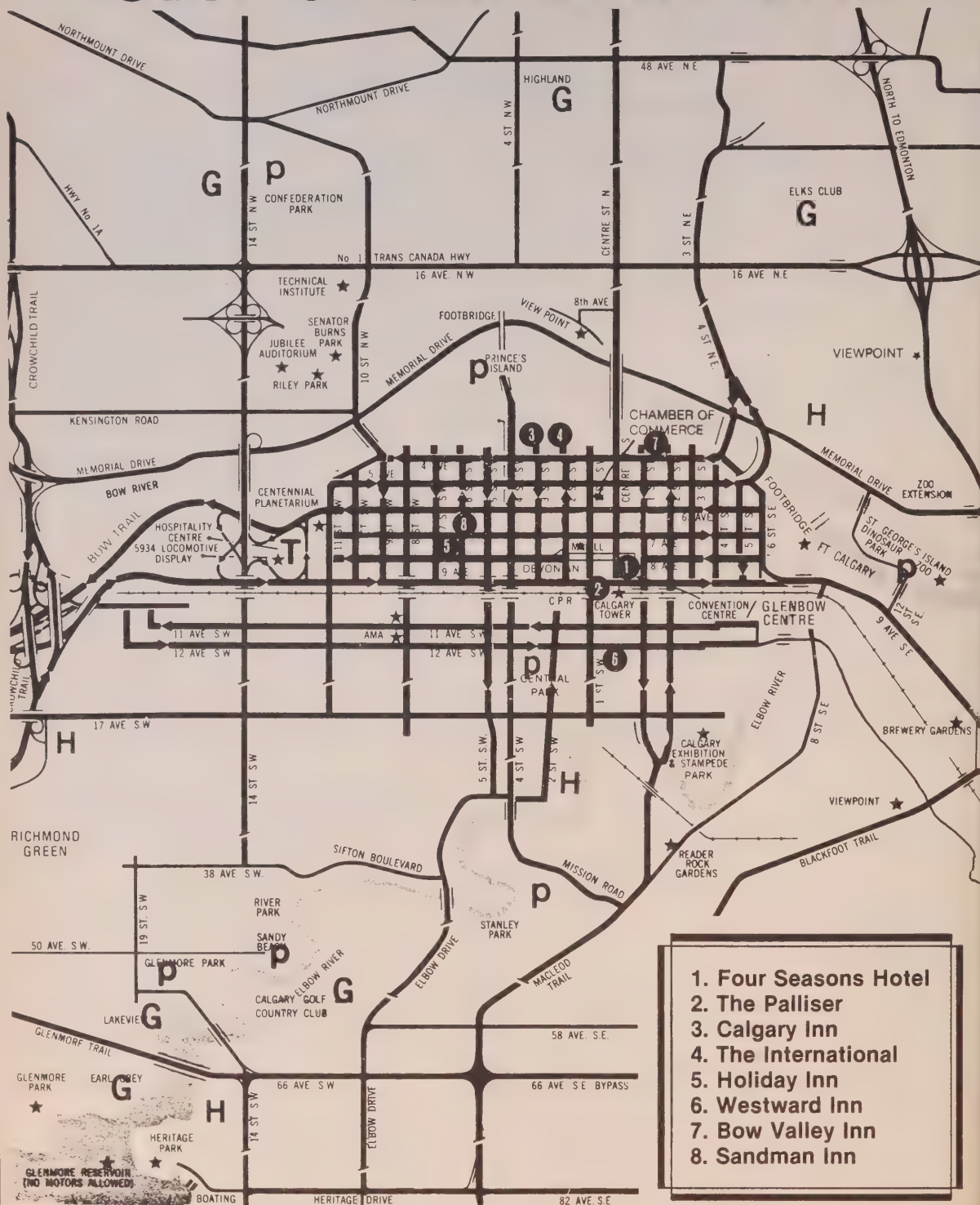
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Central neurilemmoma of the mandible

I.D.F. Schofield, DDS, FRCD (C)

D.G. Gardner, DDS, MSD

London, Ontario

Tumours of nerve sheath origin, that is, neurofibroma, neurilemmoma (schwannoma), and neurosarcoma, rarely occur as intraosseous lesions. However, the bone which is most often affected by such tumours is the mandible, presumably because no other bone in the body contains a major nerve of the length of the inferior dental nerve. The purpose of this paper is to document one additional case of a neurilemmoma occurring in the mandible.

CASE REPORT

A 16-year-old Caucasian female presented with an expanding swelling of the anterior mandible, with concomitant migration of the teeth. A radiograph revealed a large, well demarcated radiolucency of the mandible (**Fig 1 and 2**). The most likely clinical diagnosis was a giant cell lesion, and consequently, preoperative tests were performed to rule out hyperparathyroidism. These were within normal limits.

At surgery, the lesion was pale yellow and much of it was relatively soft and enucleated in three pieces. The soft yellow material gave the clinical impression of keratin and prompted the tentative diagnosis of odontogenic keratocyst. The enucleation left a clean crypt, except in the area of the left mental nerve where the tumour had to be dissected away from that structure.

Pathological examination revealed typical neurilemmoma (**Fig 3, 4, 5, 6**). The soft yellow material had been

embedded separately and was found to consist entirely of lipid-filled xanthoma cells (**Fig 6**). No Antoni Type B tissue was present.

DISCUSSION

Intraosseous benign neural sheath neoplasms of the jaws have been reviewed recently by Ellis and colleagues¹, who found 28 cases and added seven more. Females were affected twice as often as males, most patients were under 45 years of age, and there was a predilection for the posterior part of the mandible. Most were apparently neurofibromas, but there have been inconsistencies in the past

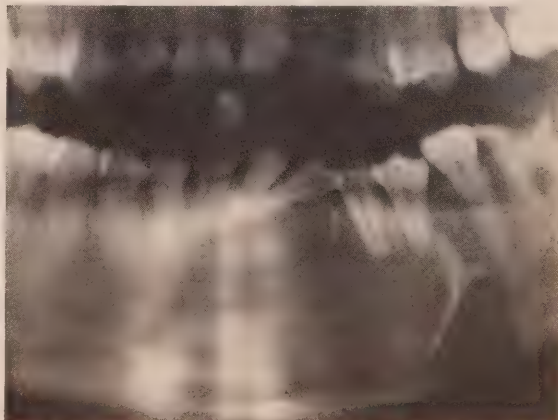


Fig. 1 Extraoral pantomograph of the lesion, illustrating its extension from the right cuspid area to the distal of the left second premolar.

Fig. 3. Low-power photomicrograph of a typical area of the neurilemmons. All of this tissue is of the Antoni A type. There are two hyalinized areas, known as Verocay bodies, in this field. (Hematoxylin and eosin stain. Original magnification x 80.)



Fig. 4. Higher power magnification of a Verocay body illustrating the typical hyalinized areas and palisading of the cells seen in these structures. (Hematoxylin and eosin stain. Original magnification x 256.)

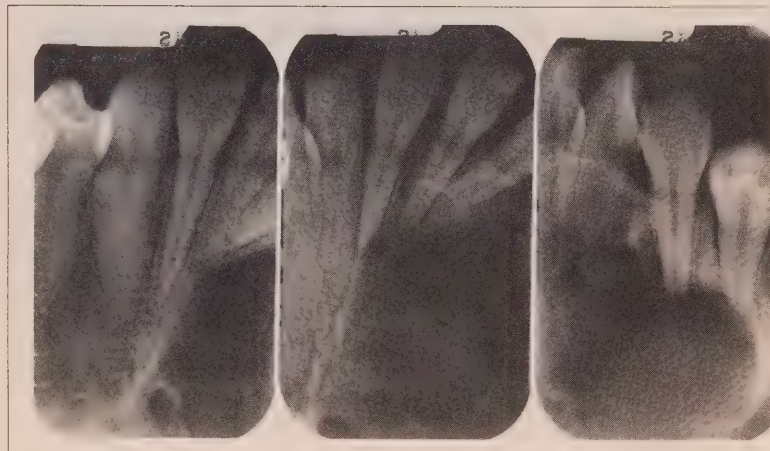
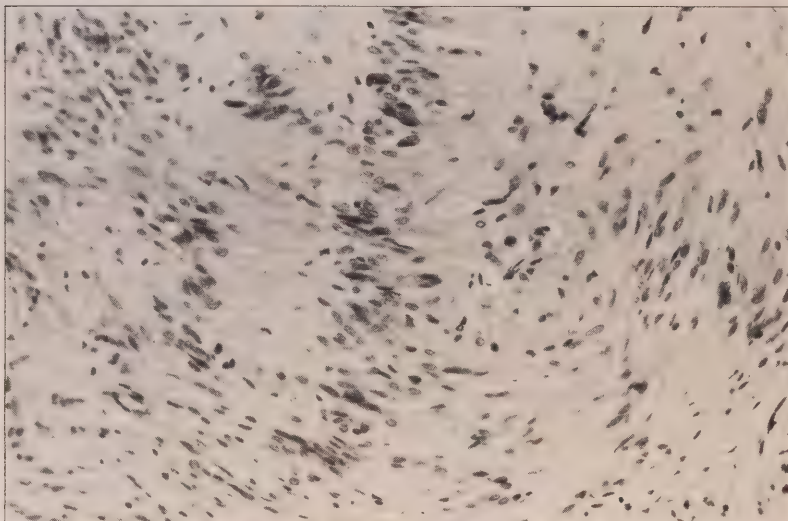


Fig. 2. Periapical films showing the well-circumscribed nature of the lesion and the displacement of teeth.

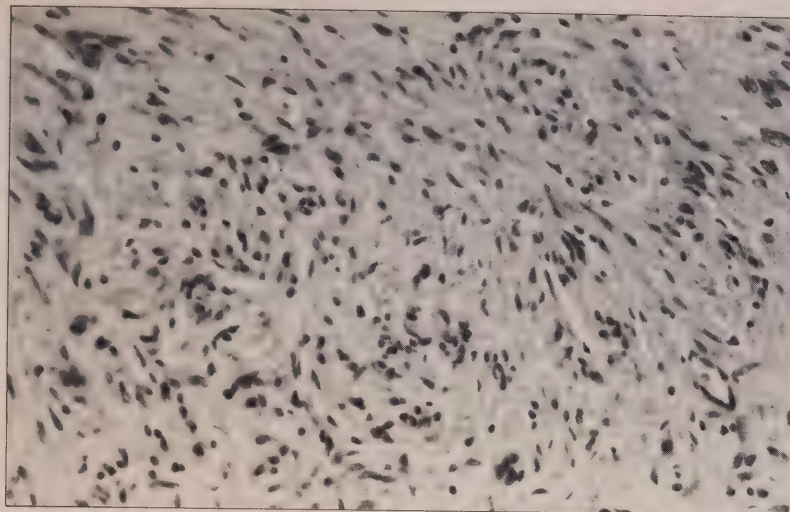


Fig. 5. An area of Antoni type A tissue. The cells are elongated spindle cells with indistinct cell outlines. They are often arranged in interlacing fascicles but this feature was not prominent in the present case. (hematoxylin and eosin stain. Original magnification x 256.)

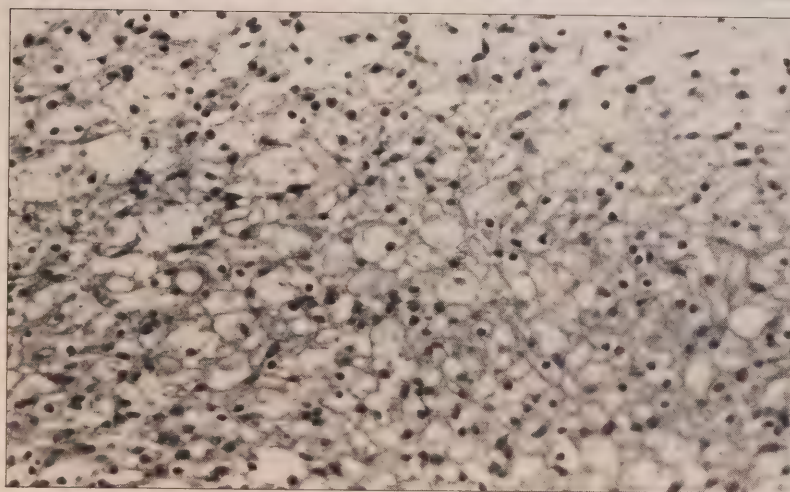


Fig. 6. Lipid-filled xanthoma cells were a prominent feature of the present case; not an unusual finding in neurilemmomas. (Hematoxylin and eosin stain. Original magnification x 256.)

concerning the differential diagnosis of neurofibroma and neurilemmoma, and therefore, the apparent predominance of neurofibromas may not be accurate. Ellis et al¹ state that the intraosseous neurofibromas tend to recur more often than neurilemmomas when treated by conservative excision. Enucleation of an intraosseous neurilemmoma with periodic examination of the surgical site is the most appropriate treatment.

There is nothing diagnostic in the radiologic appearance of intra-osseous neurilemmomas, although their well circumscribed nature is indicative of a benign process and, because of their rarity, it is unlikely that they would be considered in the clinical differential diagnosis of a mandibular radiolucency. The diagnosis is established by pathologic examination. These lesions are benign and are not generally associated with the neurofibromatosis, although one such case has been reported by Fawcett and Dahlin² (their case 7). Even that case apparently had features of both neurilemmoma and neurofibroma.

The finding of soft yellowish material in an intraosseous lesion of the jaws often leads to the tentative diagnosis by the surgeon of odontogenic keratocyst and it is usually substantiated by the pathologist. It is interesting that in this case the yellowish material was found to consist of lipid-filled xanthoma cells; they may be numerous in neurilemmomas.

REFERENCES

- 1 Ellis, G.L., Abrams, A.M. and Melrose, R.J. Intraosseous benign neural sheath neoplasms of the jaws. *Oral Surg* 44:731, 1977.
- 2 Fawcett, K.J. and Dahlin, D.C. Neurilemmoma of bone. *Amer J Clin Path* 47:759, 1967.

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The authors wish to thank Dr. Gordon K. Dafoe of Woodstock, the original clinician in this case.

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A retrospective study was carried out to determine the results of reduction eminoplasty of the articular eminence of the temporal bone. The procedure was performed on 16 patients who presented with recurrent dislocation of the temporomandibular joint. Eleven patients were available for follow-up. For the follow-up (up to 15 months), the treatment appeared to have uniformly eliminated the symptoms of dislocation and crepitus.

Reduction eminoplasty for chronic recurrent luxation of the temporomandibular joint

F.W. Lovely, DDS, MS, FRCD(C)

R.A. Copeland, BSc, DDS

Halifax, Nova Scotia

Treatment modalities of temporomandibular joint luxation have varied. Most have been directed to increasing the height of the articular eminence or restriction of the movements of the mandibular condyle by other means. Recently, attention has been directed to reduction of the height of the articular eminence to permit unimpeded excursions of the mandibular condyle.

This paper summarizes the results of a retrospective study of a modified surgical procedure to reduce the height of the articular eminence as treatment for chronic recurrent dislocation of the temporomandibular joint.

The temporomandibular joint is a condylar joint between the mandibular fossa of the temporal bone above, and the condylar head of the mandible below. The joint movements are normally limited by a fibrous capsule, the lateral temporomandibular ligament, the sphenomandibular ligament and the stylomandibular ligament. The intervening articular disc is oval and is mainly of fibrous tissue.

The normal articulation takes place between the condylar head of the mandible and the posterior and convex part of the articular eminence. The articular eminence is a

transverse bony ridge at the anterior of the glenoid fossa. Structurally speaking, it can be regarded as the basal root of the zygomatic arch. It is strongly convex in an anterior posterior direction and somewhat concave in a transverse direction. A laterally raised bony knob is located just at the root of the zygomatic arch and is called the articular tubercle. It is the attachment of special bands of the temporomandibular ligament.

When the mouth is opened, the head of the mandible first rotates around a horizontal axis. This movement is then combined with a translation of the condyle forwards and downwards, in contact with the lower surface of the articular disc. At the same time, the disc slides forward and downwards on the temporal bone. This forward/downward motion is as a result of the attachments of the disc to the medial and lateral poles of the head of the mandible and from the contraction of the lateral pterygoid muscle, which carries the head with its articular disc onto the articular eminence. The forward sliding of the disc ceases when its attachments have been stretched to the limit. The mandible contains teeth that articulate with the maxillary teeth. The shape of the teeth and their method of occlusion influence the movements of the mandible and its articulation.¹

"Reduction of an acutely luxated mandible is relatively easy when performed by a dentist who has experience with this problem . . ."

When the mouth is open, the head of the mandible is normally situated on the summit of the articular eminence. This relationship can normally vary from the base of posterior slope to the summit or slightly forward. Any sudden trauma or even muscle spasm (e.g. wide yawn, dental manipulations) may displace one or both condyles forward into the infratemporal fossae. "Luxation or dislocation is understood to be a state within a joint in which the normal contact between the joint interfaces has been dissolved."²

Fehrman and Kreidler³ have divided dislocation into two categories: (a) genuine luxation — which can only be reduced by a health professional, and (b) habitual luxation during maximum opening — which is reduced by the

patient. Luxations of the mandible are relatively rare (involving only 3 per cent of all joint luxations) but are often extremely exasperating to the sufferer. Dislocations are usually acute. Mild injury or yawning are the most frequent causes. They result from the lateral pterygoid muscle pulling the condyle well forward of the articular eminence. Once this occurs, the temporalis and masseter muscles shorten (contract) and force the condyle(s) into the infratemporal fossa. This superior positioning of the condyle into the infratemporal fossa causes premature engaging of the molar teeth and an anterior open bite. This muscle contraction or spasm must be overcome to reduce the dislocation. Recurrent dislocation is usually associated with hypermobility of the mandible and a steep articular eminence. The patient with true hypermobility of the mandible (chronic habitual luxation) is the victim of a self-perpetuating and aggravating cycle. Each time the mandible dislocates, there is further stretching of the capsular ligaments.

The term "subluxation" has been used in the past to describe a forward displacement of the condyle whereby muscle contracture did not actually force the condyle into the infratemporal fossa. The term is often confusing and is erroneously used to describe chronic recurrent dislocation. It should perhaps be abandoned for the more appropriate term of "hypermobility," to describe this altered functioning.

Myrrhaug⁴ in his 1951 review of the literature concerning chronic TMJ dislocation, stated that "bite and dental articulation are the main factors which determine the shape of the joint during the period of growth up to the age of 25 years." It is the shape of the joint which determines the frequency and ease of dislocation (i.e., the shallow glenoid fossa and low sloping eminence of primitive man allowed extensive excursions). The increased depth of the mandibular fossa as well as the steep narrow eminence found in modern man have variously been related to eating habits,⁵ and the mode of chewing.⁶ It is this increased depth and steepness, as well as constriction, which have resulted in an increased incidence of TMJ dislocation.

Forward dislocation of the mandible is as a rule bilateral. The symptoms and signs include: (1) open mouth, (2) protruding chin, (3) tense spasmodic muscles of mastication, (4) excessive salivation, (5) speech difficulty, and (6) pain in the area of the TMJ

Reduction of an acutely luxated mandible is relatively easy when performed by a dentist who has experience with this problem. A dislocation of long standing will require muscle relaxants and perhaps general anaesthesia and surgical intervention.

Treatment of habitual TMJ luxation has varied. The approaches employed can be loosely classified as being surgical or non-surgical. Immobilization of the mandible for three weeks has been widely used in the past. This immobilization has been achieved by a variety of methods; from chin cups to inter-arch wire fixation. The rationale underlying such treatment was that it gave the joint and related ligaments an opportunity to recover and repair. Unfortunately, this method has not proven totally successful, with dislocation recurring soon after removal of the fixation.

For several decades, chronic habitual dislocation has been treated via the injection of a sclerosing agent around the joint space. Sclerosing theoretically produces scar tissue formation and subsequent restriction of mandibular movement. This method is probably the most successful non-surgical technique employed to date. Of the drugs that have been used, sodium psyllate (Synasol) has consistently provided the best results. Synasol is, however, no longer available, and according to Irby,⁷ a suitable substitute has not been found. Schultz⁶ tried a number of agents and reported a large number of cases successfully treated with Intracain, 5 per cent in oil (injected repeatedly until a satisfactory result was achieved). Sodium morrhuate and ethanolamine oleate have been used as sclerosing agents for a number of years, as well as alcohol and tincture of iodine. Sclerosing agents have met with less than ideal results in the management of chronic luxation.

The earliest recorded surgical technique for chronic recurrent dislocation involved unilateral extirpation of the condyle.⁸ Although condylectomy is still performed regularly, it is not recommended for the treatment of chronic dislocation. Black⁹ laced the coronoid process to the zygomatic arch, either with an animal tendon of slow absorbability or with a wire. This prevents wide opening of the mouth via mechanical interference. Boman¹⁰ reported detaching the lateral pterygoid muscles from the condyles in conjunction with capsulorrhaphy. Dingman¹¹ and Kiehn¹² reported the use of meniscectomy in the treatment of chronic habitual luxation of the TMJ. Morris and Perthes¹³ have described a procedure which involves the capsule. Georgiade¹⁴ reported a case where the condyles had been ligated to the zygomatic arch with nylon, to limit their movements. Merrill¹⁵ used Georgiade's techniques in patients suffering from Parkinson's disease. Plication or shortening of the capsular ligament was advocated by Boudreaux and Sprie.¹⁶

Many procedures have been developed to increase eminence height. Mayer¹⁷ transplanted a dorsal fragment of the zygomatic arch in front of the condyle. Leclerc and

Girard¹⁸ performed virtually the same procedure using a thicker part of the zygomatic process. Findlay¹⁹ reported the use of a stainless steel T-shaped pin implanted in each zygomatic arch to prevent the condyles from riding over the eminentia. Thoma²⁰ reported the use of bone grafts.

"The procedure should be considered for those patients for whom the conservative treatment of restricted movement and elimination of parafunctions have failed"

Although the various procedures described to increase eminence height have met with a certain amount of success, the following disadvantages exist:

- (a) fracture of the zygomatic arch may occur,
 - (b) the medial part of the articular eminence is not readily accessible, which means that the operation is technically more difficult.
- the added bone usually resorbs,
inert materials tend to become displaced.

Myrrhaug,⁴ in 1951, was the first to describe removal of the articular eminence to treat chronic dislocation of the mandible. Contrary to previous methods which aimed at restriction of the condylar movement, the "Myrrhaug method" seeks to bring about freedom of movement of the condyle. The method is of striking and widely acclaimed simplicity. The articular eminence reduction aims at creation of a normal joint by producing a shallow glenoid fossa and a low articular eminence. In 1957, Irby²¹ reported success using a similar procedure. Further, he strongly advocated this approach in his text of 1974, stating that in his experience "it had produced consistently gratifying results with a small incidence of morbidity." Irby has used this procedure on occasion in the treatment of (a) chronic hypermobility associated with pain, and (b) irreversible TMJ pain associated with clicking or grating.

Hale⁸ and Baumstark and Markowitz²² reported cases treated successfully using methods similar to or based on the Myrrhaug technique. Westwood et al²³ reported excellent results with the use of eminoplasty, and on the basis of their own experience felt that this should be the preferred treatment for chronic dislocation of the mandible. Van der Kwast² also evaluated eminectomy as a treatment for habitual luxation, with similar gratifying results. Further, he noted the lack of follow-up study in the literature.

In two recent publications, Sanders et al^{24 15} evaluated the potential benefits versus the anatomical hazards associated with articular eminence reduction. Anatomical and radiographic analysis of the TMJ complex using hemisected embalmed cadaver heads revealed that careless removal of the eminence could conceivably result in intracranial perforation. The large and numerous marrow spaces often encountered during surgical removal of the eminence could potentially become communication pathways for cranial sepsis from wound infection. They believed, therefore, that a complete radiographic survey should be performed and antibiotic therapy indicated. Special attention should be given to large pneumatizations in the eminence. Reduction of the articular eminence as introduced in 1951 by Myrrhaug has consistently given gratifying results.

Creptus in the absence of pain should not be considered pathologic. Cherry²⁶ believes that the most common error in TMJ surgery is the failure to recognize and properly evaluate TMJ disorders. Some of the more common concomitant disorders are myofascial pain dysfunction syndrome, and anxiety and tension. These disorders should be treated separately and aggressively before surgery and again after surgery to insure a satisfactory result.

OPERATIVE PROCEDURE

All patients were treated as outpatients. General anaesthesia was administered via nasoendotracheal intubation. The patient was placed in the supine position. The skin of the right and left preauricular regions was prepared with Broidine solution. A sterile cotton pledget was placed in the external auditory canals. The patient was draped in the correct surgical fashion, leaving the skin of the preauricular regions exposed.

A 1.5 incision is made along the base of the zygomatic arch, approximately 1.0 cm anterior to the tragus of the ear. This placement will locate the anterior extent of the incision directly over the articular eminence. Anterior retraction will give adequate exposure of the eminence. The actual incision should be carried no further anteriorly, due to the superior anterior course of the temporal and zygomatic branches of the facial nerve. This placement of the incision will avoid danger to these two nerve branches. The incision is made through skin and carried through subcutaneous tissue via sharp dissection. The skin incision is then extended to bone at the inferior border of the

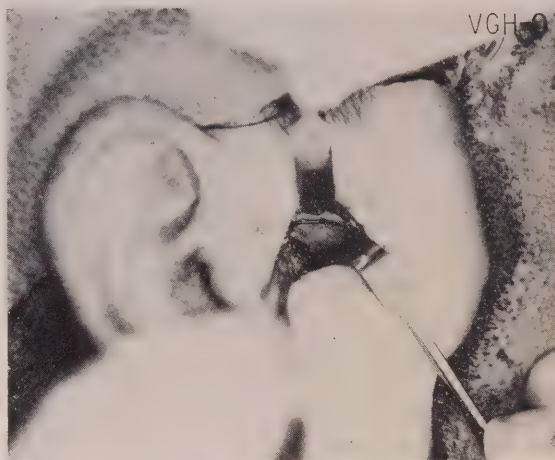


Fig 1 Operative procedure.

zygomatic arch. Using a periosteal elevator, the periosteum is then elevated, exposing the articular eminence of the temporal bone. With a unibevell osteotome and a mallet, the articular tubercle and eminence of the temporal bone are then removed. Care is taken not to direct the chisel cranially. The cut is continued medially for 1.5 cm. Using a bone file, the eminence is smoothed and the wound is irrigated with normal saline solution. The mandible is then mobilized in order to visualize condylar movements in relation to the reduced eminence. The wound is sutured in layers, using 4-0 plain gut and 6-0 nylon interrupted sutures. A sterile Telfa and paper tape dressing is placed; 2 cc of Auralgan ear drops are placed in the external auditory canals, following removal of the cotton pledget (Fig 1).

The procedure is done unilaterally or bilaterally, depending upon the clinical problem. Codeine and penicillin G (500,000 I.U. q6h) are prescribed postoperatively for pain and the prevention of infection. Intermittent ice packs are applied for 24 hours. Function is encouraged after 24 hours. The sutures are removed on the sixth postoperative day.

EVALUATION OF RESULTS

Eleven of the 16 patients who received eminoplasty in the 15-month period were recalled. A standard format of interview and examination was followed for each patient.

(Table 1) Postoperative Panorex x-rays were taken for all patients and the results were compared with preoperative radiographs.

8. There were no cases of interruption of branches of the facial nerve.

DISCUSSION OF RESULTS

1. The postoperative course was generally successful in that dislocation ceased to be a problem.
2. All patients generally had joint pain eliminated or reduced to tolerable limits.
3. Joint noises were eliminated or markedly reduced.
4. The symptoms of myospasm were reduced in all cases.
5. The patients who had a preoperative history of headache stated that they no longer have headaches.
6. The side effects reported were one case of vertigo and one case of restricted opening. The restricted opening is desirable and is temporary; however, it is noticed by patients because it was found that most patients with chronic hypermobility and luxation are frequently testing their joints and exhibiting parafunctional movements.
7. Scarring was very minimal and was not a complaint from any of the patients (Fig 2).



Fig 2 Postoperative site.

CONCLUSIONS

Reduction eminoplasty for chronic recurrent dislocation of the temporomandibular joint is a sound treatment

TABLE 1
EVALUATION OF RESULTS

No.	Sex	Age	Lux Pre' Post		Hyper Pre' Post		Side Red'n		Dur* wks	Freq wk	Pain Pre' Post		Crepitus Pre' Post		Spasm Pre' Post		Headaches Pre' Post		Tinn Pre' Post		Time** Mos	Pat.+ rating
1	F	44	+	—	—	—	R L	MD	16	1	+++	+	++++	—	+	—	—	—	—	—	8	S
2	F	31	+	—	—	—	R	Self	50	2	+++	+	+++	—	+	—	—	—	+	—	6	S
3	F	29	+	—	—	—	R L	Self	50	6	+++	—	++++	—	—	+					8	I
4	F	15	+	—	—	—	R	Self	50	20	++	+	++	+	+	—	—	—	—	—	8	S
5	M	26	—	—	+	—	L	Self	16	20	++		++	+	+						9	S
6	M	41	+	—	—	—	L	Self	150	10		—	++++	—	+						7	S
7	F	22	—	—	+	—	R	Self	24	10	+++	+	++	+	+	—	—	—	+	—	15	S
8	F	39	+	—	—	—	R L	Self	200	20	+++	—	++	+	+	—	+				14	S
9	F	20	+	—	—	—	R	Self	100	10	—	—	+		+	—	+	—	+		5	I
10	F	27	+	—	—	—	R L	Self	100	20	++	—	++	+	+	—	+	—	+	—	4	S
11	F	32			+		R	Self	50	5			+		+		+				3	S

* Total duration of symptoms

** Time interval between surgery and follow-up.

* Patient rating of "satisfactory" or "improvement."

modality. The beneficial results of absence of pain, crepitus, spasms and associated headaches have persisted for the duration of this study. Patients were universally satisfied, and post-surgical scarring and morbidity appear to be minimal.

The procedure should be considered for those patients for whom the conservative treatment of restricted movement and elimination of parafunctions have failed.

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Après une brève revue des mécanismes de résorption osseuse des crêtes résiduelles, l'auteur tente de diviser en trois classes les cas de crêtes qui causent des problèmes de traitement. Les deux grandes approches de traitement par chirurgie, soit l'extension et l'augmentation de la crête sont ensuite expliquées par de fréquents rappels anatomiques. Enfin, le défi moderne que pose la chirurgie préprothétique est présenté.

La chirurgie préprothétique: nouvelles perspectives

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Le Québec et certaines provinces canadiennes comptent de nombreux édentés parmi la population adulte. Au taux élevé de porteurs de prothèses dentaires complètes s'ajoutent deux phénomènes qui augmentent considérablement la morbidité associée au port de prothèses. En premier lieu, il y a l'âge précoce où les gens se font enlever toutes leurs dents. Les prothèses reposent alors sur un tissu osseux qui n'a pas encore atteint sa pleine maturité et qui est susceptible de résorber rapidement. Même si l'on note une certaine amélioration à cet égard, une étude récente⁽¹⁾ indiquait, toutefois, que le taux d'extraction dentaire partielle chez les jeunes de 13-14 ans était huit fois élevé au Québec qu'en Ontario et seize fois plus qu'à Baltimore, une ville dont l'eau de consommation est fluorée. De plus, il subsiste des idées néfastes sur le port des prothèses. La population est bien peu alertée sur les soins qu'il faut apporter aux prothèses dentaires. La coutume de les porter jour et nuit persiste. On néglige de les renouveler, surtout dans les premières années.⁽²⁾ Bien peu de gens, y compris certains membres de la profession dentaire, réalisent qu'une prothèse est un objet artificiel qui viole un principe de base essentiel à l'intégrité de tout os: soit le besoin d'être soumis à une tension. La perte de dents perturbe l'équilibre des forces masticatoires qui ne sont plus distribuées à l'ensemble de l'os alvéolaire par la membrane péri-dentaire. Les prothèses dentaires s'appuient directement sur l'os qui devient compressé et qui se résorbe (fig. 1). C'est ainsi que, progressivement, des troubles surgissent. Les prothèses deviennent instables, surtout celles du bas. Elles font mal. Le patient consulte alors le dentiste qui est confronté avec la situation suivante: une crête résiduelle déficiente non seulement en quantité, mais aussi en qualité.

ASPECT CLINIQUE DE LA CRÊTE RÉSIDUELLE ATROPHIÉE

Le problème ne se limite pas à une perte de hauteur et de largeur de la base osseuse. C'est aussi la texture des tissus qui est mise en cause. Ainsi les muqueuses sont inflammées et hypertrophiées. Les attaches musculaires sur la crête deviennent apparentes. La description des crêtes résiduelles dans les nombreux traités de prothèse ou de chirurgie buccale est en général incomplète. On s'attarde beaucoup sur le traitement préprothétique de telle ou telle affection, torus, épulis ou lésion fibreuse. Mais on néglige le plus souvent de décrire des points communs rencontrés chez les patients qui ont des difficultés avec leurs prothèses. Pourtant ces ressemblances permettraient d'établir des groupes à l'intérieur desquels la même approche de traitement serait appliquée.

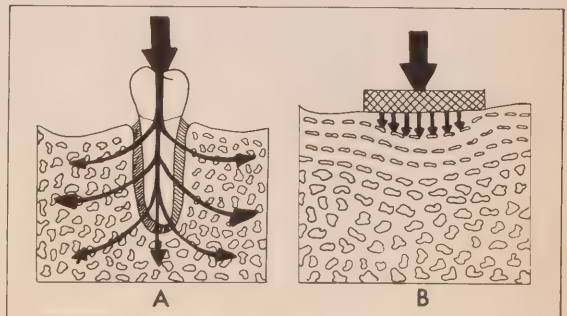


Figure 1 — a) Les forces masticatoires sont physiologiques parce qu'elles sont distribuées à l'ensemble de l'os par la membrane péri-dentaire. b) Les forces masticatoires exercées sur une prothèse dentaire sont nocives parce qu'elles sont compressives.

Nous allons tenter en premier lieu de comprendre le processus de résorption et son évolution avant d'y apporter des solutions. Ainsi, les cas problématiques de crêtes déficientes seront partagés en trois catégories selon les aspects communs qu'ils représentent.

ÉVOLUTION DE LA RÉSORPTION ALVÉOLAIRE

Certaines études ont montré la séquence des transformations anatomiques qui ont lieu au niveau de l'os alvéolaire, une fois les dents enlevées. On sait que ce tissu subit un choc majeur qui se traduit par la perte dans les cinq premières années de plus de tiers de l'os alvéolaire⁽³⁾. Cette phase de remodelage est ensuite suivie par une période plus lente de résorption qui continue même vingt-cinq ans après les extractions⁽⁴⁾ et qui conduit chez certains patients à la disparition totale de l'os alvéolaire. Plusieurs facteurs⁽⁵⁾, autant locaux que systémiques, accélèrent ou retardent ce processus. D'autres travaux nous ont expliqué la direction

des lignes de résorption⁽⁶⁾. On a observé que le sommet de la crête résiduelle se déplace vers l'arrière et vers l'intérieur. Ce phénomène s'explique par la présence d'une corticale beaucoup plus fine du côté labial que du côté lingual ou palatin. Les similitudes de résorption entre les deux maxillaires s'arrêtent là. En effet, la région de résorption maximale à la mandibule se situe au niveau des prémolaires alors qu'au maxillaire la partie incisive est la plus souvent impliquée, surtout si la prothèse supérieure était apposée contre quelques incisives inférieures naturelles.

TYPES DE CRÊTES RÉSIDUELLES DÉFICIENTES

Il s'agit de généraliser à partir des multiples variations anatomiques qui existent entre les différentes crêtes résiduelles et de trouver des dénominateurs communs chez celles qui présentent des difficultés majeures de traitement.

Groupe 1 Attaches musculaires fortes sans atrophie osseuse marquée (Fig. 2 a):

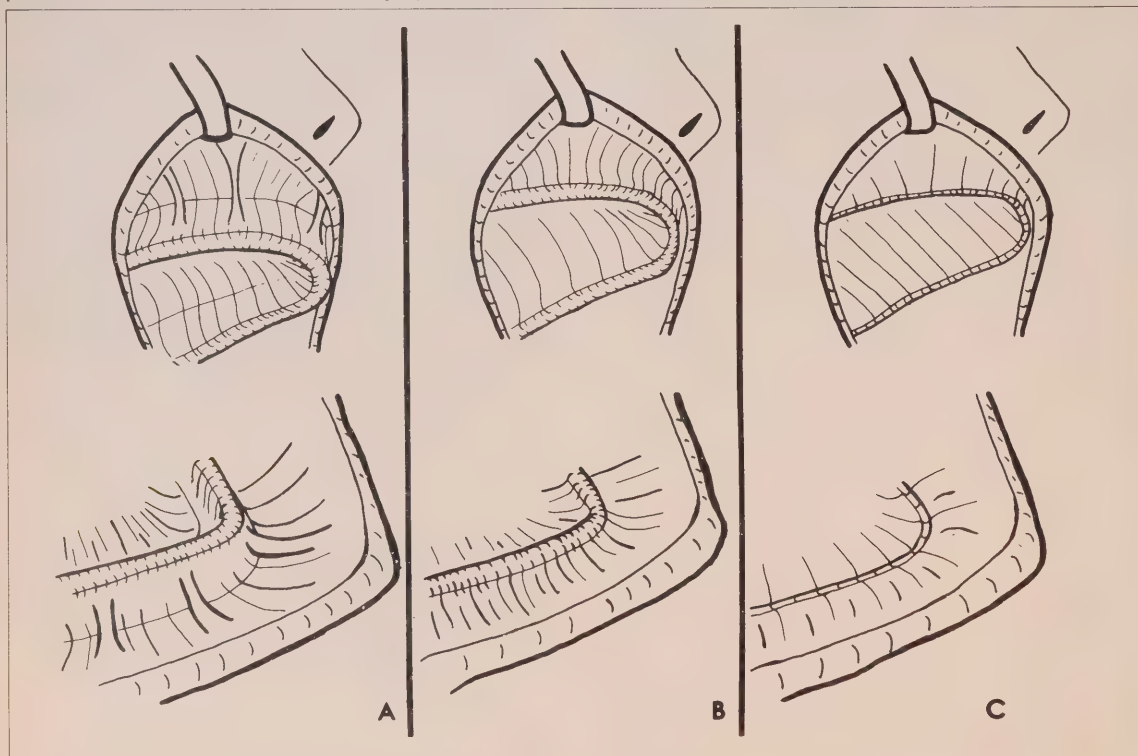


Figure 2 — a) Groupe 1: Attaches musculaires fortes sans atrophie osseuse.
b) Groupe 2: Crête fine et atrophiée avec muqueuse de recouvrement lâche et douloureuse.
c) Groupe 3: Absence de crête résiduelle.

Les difficultés de stabilité et de rétention de la prothèse inférieure ne sont pas nécessairement reliées à un manque de support osseux. Chez certaines personnes, l'os résiduel est très abondant. La corticale labiale est à peine résorbée. Les sommets de la crête est large et recouvert d'une muqueuse ferme et attachée. Cette crête résiduelle défie toute approche prothétique conventionnelle. Autant le tonus fort et le niveau d'insertion que la direction des fibres musculaires qui s'attachent au sommet de la crête se liguent entre eux pour déjouer toute tentative de retenir la prothèse en place. Des techniques chirurgicales d'extension apporteront non seulement une amélioration franche dans la stabilité, mais aussi procureront une rétention remarquable de la prothèse.

Groupe 2 — Crête fine et atrophiée avec muqueuse de recouvrement lâche et douloureuse (Fig 2 b):

La grande majorité des cas problèmes appartiennent à ce groupe. Le remodelage de l'os alvéolaire favorise l'apparition d'une crête résiduelle aigue dont le sommet est formé par la corticale linguale ou palatine et qui est recouverte d'une muqueuse lâche et douloureuse à la pression. Cette crête fibreuse qui se déplace sous la pression du doigt affecte la stabilité de la prothèse. Elle est présente sur le pourtout entier du corps de la mandibule, tandis qu'au maxillaire elle se limite le plus souvent à la région antérieure aux molaires. En général, les muscles s'attachent à un niveau égal ou inférieur au sommet de la crête. Dans les cas graves de négligence du patient à faire renouveler ses premières prothèses, la muqueuse et les muscles du vestibule s'hypertrophient par suite de l'irritation par le rebord externe de la prothèse. On peut faire disparaître une partie importante de ce tissu cicatriciel en modifiant la prothèse maladaptée aux tissus et en appliquant une série de traitements avec des conditionneurs de tissus mous. Cependant, si le sommet de la crête demeure lâche et douloureux à la palpation et que les tissus du vestibule présentent des cicatrices profondes s'étendant aux muscles ou si le tonus des muscles est trop fort, seuls des

moyens chirurgicaux pourront apporter une solution définitive.

Groupe 3 — Absence de crête résiduelle (Fig. 2 c):

Chez ceux qui souffrent d'atrophie extrêmement grave, la crête résiduelle est formée par l'os basal. Les apophyses géniques deviennent palpables. Elles prennent une position plus élevée que la crête elle-même. De même, les attaches des muscles du plancher et du vestibule deviennent atrophiées. Leur influence sur le déplacement de la prothèse est moins marquée que lorsque la crête est plus abondante. De plus, une dépression osseuse entre les deux corticales interne et externe peut se développer souvent sur toute la longueur du corps de la mandibule. Même si cette formation anatomique sert à stabiliser la prothèse, elle devient souvent douloureuse par suite du pincement de la muqueuse à cet endroit par la prothèse. Il est intéressant de retenir que cette configuration de l'os permettra d'appliquer plus facilement les nouvelles techniques d'augmentation de la crête avec greffe osseuse.

Au maxillaire, la perte de l'os alvéolaire entraîne l'apparition de structures anatomiques telles que l'épine nasale, les apophyses malaires, et ptérygomaxillaires qui interfèrent avec le rebord de la prothèse. Il n'y a plus de scellement périphérique. Il faut éliminer l'une ou l'autre de ces interférences. La chirurgie préprothétique n'est pas nécessairement impliquée si la muqueuse qui recouvre la crête et le palais est ferme et que la base est large. Il est alors étonnant de constater combien retentive peut devenir la prothèse exécutée par des techniques prothétiques précises sans support de la chirurgie.

RECONSTRUCTION CHIRURGICALE DES CRÊTES DÉFICIENTES

La reconstruction chirurgicale de la crête déficiente s'appuie sur deux grandes approches: l'augmentation ou l'extension de la crête ou les deux procédés, l'un à la suite de l'autre.

L'extension de la crête est indiquée lorsque l'atrophie n'est pas trop considérable et qu'il est possible de faire un

gain de crête à partir des versants présents de chaque côté de la crête.

Lorsque le déficit osseux est grave sur toute l'étendue de la crête, la crête mandibulaire doit être augmentée en hauteur. Pour le maxillaire, l'augmentation se fait par l'approfondissement de la voute palatine.

EXTENSION DE CRÊTE

C'est en éliminant les interférences osseuses et musculaires qu'on réussit à étendre la crête.

Interférences osseuses:

A la mandibule, l'interférence osseuse la plus fréquente est la *crête effilée* recouverte d'une fausse crête fibreuse mobile au toucher (fig. 3). Il ne faut pas entreprendre l'excision de cette fausse crête et le remodelage des pointes osseuses sans poursuivre le traitement dans une étape ultérieure par une extension de crête. C'est un point majeur souligner.

Une autre interférence osseuse dont l'ablation peut amener un gain de crête appréciable du côté lingual est le *balcon osseux lingual*, véritable prolongement de la crête mylohyoïdienne qui peut encercler totalement la face interne du corps mandibulaire et qui se joint dans la partie antérieure avec le sommet des apophyses géni. Il importe de ne pas confondre cette formation anatomique avec les tori mandibulaires qui sont lobulés et qui sont plutôt confinés à la région canine.

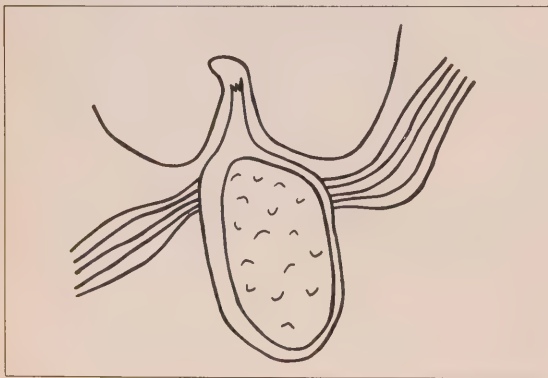


Figure 3 — Crête effilée et tranchante recouverte de muqueuse lâche.

Au maxillaire, des interférences osseuses apparaissent seulement lorsque la crête résiduelle est gravement atrophiée. C'est ainsi que l'épine nasale, les apophyses malaïres et les apophyses ptérygomaxillaires font saillie. Ces formations anatomiques peuvent être éliminées, du moins en partie. L'ablation de l'épine nasale, si la résorption n'a pas atteint le niveau du plancher nasal, améliore la profondeur du vestibule. De même, l'ablation des apophyses ptérygoïdes, facilement palpables lorsque les tubérosités sont absentes, permet un gain de crête appréciable à l'arrière.

Interférences musculaires:

L'abaissement du plancher de la bouche et l'extension du vestibule avec couverture de la crête résiduelle par une mince greffe de peau⁽⁷⁾ sont des solutions chirurgicales extrêmement efficaces qui ont démontré leur grande utilité pour les patients des groupes 1 et 2, surtout s'il reste une certaine quantité d'os alvéolaire à la mandibule (fig. 4). La morbidité associée à ces techniques a grandement diminué depuis les dernières douze années, date de nos premiers cas. L'invalidité qui en résulte dure à peine quelques semaines. Les résultats sont constants. Il n'y a aucune comparaison possible entre le degré de stabilité et même de rétention d'une prothèse conventionnelle étroite que l'on essaie de maintenir sur une crête fine par des techniques non chirurgicales de moulage des muscles et celui de la prothèse insérée après une reconstruction chirurgicale. Cette dernière est large et s'appuie sur une surface beaucoup plus étendue. La désinsertion des muscles du sommet de la crête permet d'annuler l'effet de soulèvement de la prothèse par ces muscles.

Au maxillaire, la vestibuloplastie sous-muqueuse⁽⁸⁾,

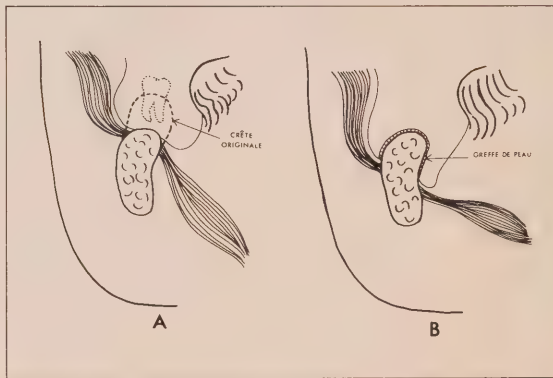


Figure 4 — a) Muscles du plancher de la bouche et du vestibule s'insérant sur le sommet de la crête suite à l'atrophie de la crête résiduelle. b) Gain de crête après l'abaissement du plancher de la bouche et de l'extension du vestibule avec greffe de peau.

surtout si la muqueuse de la lèvre est abondante permet un gain de crête appréciable. Cette technique procure des résultats plus constants que la vestibuloplastie avec greffe de peau. A l'occasion, une greffe de muqueuse est indiquée pour recouvrir la face labiale antérieure du maxillaire résorbé.

AUGMENTATION DE CRÊTE

Le problème majeur que posent les cas de déficit osseux grave est l'absence de crête résiduelle et de versants buccal et lingual. Il faut se résoudre à augmenter en hauteur. Le patient se plaint non seulement de manque de stabilité, mais aussi de fatigue musculaire. Les muscles de la face qu'il utilise continuellement pour retenir la prothèse développent des spasmes et deviennent douloureux. Ces patients se sentent aussi nettement désavantagés par leur apparence, les commissures des lèvres étant peu supportées. Le clinicien appelé à traiter un cas d'atrophie grave sans chirurgie est confronté par des problèmes d'esthétique. En effet, il ne peut rétablir la hauteur verticale, en général déficiente, sans compromettre la stabilité de la prothèse. De même, il ne peut supporter adéquatement les commissures labiales qui doivent adopter une position de recul.

Ces deux problèmes, hauteur verticale inadéquate et montage des dents antérieures vers l'arrière pour éviter l'effet de contrainte des muscles de la lèvre et du menton, peuvent être améliorés par les nouvelles techniques

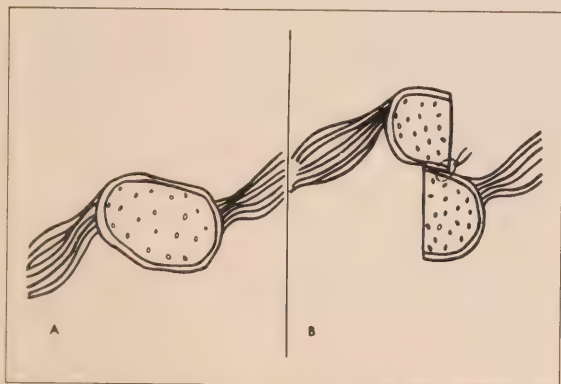


Figure 5 — Section sagittale du corps de la mandibule avec élévation du fragment intérieur pour l'augmentation de la crête très déficiente en hauteur.

d'augmentation des crêtes avec greffe osseuse. Les problèmes de guérison et de résorption de la crête greffée qu'entraînaient les anciennes techniques où l'on plaçait par-dessus la crête le greffon osseux (autogreffe onlay) semblent être éliminés par les nouvelles techniques. Celles-ci utilisent l'os du corps de la mandibule et transposent par ostéotomie ce même os sur un plan différent.

Une véritable percée s'est produite dans ce domaine en 1976 lorsque Harle⁽⁹⁾ a proposé la section sagittale totale en plein centre du corps entier de la mandibule et le déplacement vers le haut de la partie interne. Cette technique a pour effet de doubler en hauteur la crête résiduelle (fig. 5). Nous avons modifié légèrement ce procédé greffant au pourtour de l'os spongieux. La guérison s'effectue alors dans un terrain très favorable. Nous éliminons le problème majeur de l'ancienne technique: celui de placer un greffon sur une masse d'os très dense, en l'occurrence l'os résiduel de la mandibule, avec l'espoir d'une union osseuse rapide entre les deux parties. Grâce au nouveau procédé, l'irrigation sanguine du fragment intérieur pédiculé est ininterrompue. C'est sans doute la raison principale du succès que procure cette technique.

Lorsque le corps de la mandibule est trop étroit pour permettre une section sagittale, nous avons recours à un autre procédé⁽¹⁰⁾ qui s'avère très prometteur, soit la greffe intercalée. La mandibule est sectionnée dans le sens horizontal et le greffon entier d'os iliaque est placé en sandwich entre la partie inférieure du corps et la partie supérieure pédiculée au tissu lingual. Là encore, le procédé permet une prise rapide du greffon (fig. 6). Nous avons utilisé avec succès ces deux méthodes dans plus de vingt-cinq cas. La résorption osseuse post-opératoire semble minime. Aussi rapidement que deux mois après la chirurgie d'augmentation, nous procédons à la chirurgie d'extension qui permet de découvrir une crête considérablement augmentée.

Pour le maxillaire très déficient, autant en hauteur qu'en largeur, il faut retenir une technique suggérée par des confrères de Québec⁽¹¹⁾: l'augmentation de crête par approfondissement de la voûte palatine. La procédure est simple à réaliser. La muqueuse palatine est relevée. L'os du palais, après avoir été sectionné en forme de "U" est repoussé vers la cavité nasale. Cette méthode nous semble préférable à la greffe osseuse intercalée à la base du maxillaire qui ne modifie pas le versant palatin. Elle procure de façon constante la profondeur requise pour la stabilité de la prothèse.

Il serait possible maintenant de reconstruire chirurgicalement à peu près n'importe quel cas d'atrophie avec les techniques exposées.

DÉFI MODERNE DE LA CHIRURGIE PRÉPROTHÉTIQUE

Le défi principal de la chirurgie préprothétique est de se faire mieux connaître. Il subsiste encore dans certains milieux énormément de méfiance sur la valeur des méthodes chirurgicales. La raison principale de cette méfiance peut s'expliquer par la mauvaise impression qu'ont laissé et laissent encore de nos jours des techniques chirurgicales mal utilisées ou des procédés non définitifs. Ainsi certains patients ont subi l'excision d'épulis au vestibule sans que le vestibule lui-même n'ait été amélioré par une vestibuloplastie avec greffe de muqueuse ou de peau. De la même façon, on procède au remodelage d'une crête aigue sans compléter le cas par une extension de crête. Ou bien on tente d'utiliser une extension de crête avec greffe de peau, alors que l'atrophie osseuse est considérable et que des techniques d'augmentation de crête par greffe osseuse étaient tout indiquées. Dans la majorité des cas, on a sous-estimé les difficultés soulevées par la complexité du cas. Il faut insister sur le point suivant: les graves problèmes d'instabilité des prothèses ne se règlent pas à coups d'expédients. La chirurgie de reconstruction des crêtes exige de la patience autant de la part du patient que de l'opérateur. Les cas compliqués requièrent de multiples étapes. La réhabilitation complète d'un cas d'atrophie grave de la crête mandibulaire peut s'étendre sur une période de plusieurs mois et peut impliquer plus d'une admission à l'hôpital.

Un autre défi auquel seront confrontés ceux qui s'intéressent à la réadaptation des cas complexes de prothèses dentaires sera de trouver des moyens plus rapides que ceux présentement utilisés. Des développements majeurs sont

en train de se produire sur l'usage des implants intraosseux. Cependant, sera-t-il possible d'offrir ces appareils à des patients qui n'en ont pas les moyens? La clientèle des handicapés de la bouche est souvent composée de gens à revenus très limités qui ont perdu leurs dents très tôt, soit par manque d'éducation ou par manque d'argent. La meilleure façon de faire accepter la validité des coûts qui sont impliqués dans de tels projets sera d'exposer le problème sous l'angle médical qu'il comporte. Un déficit grave de la fonction masticatoire affecte la santé de l'organisme dans son entier. C'est en accumulant des données sur les effets néfastes de la perte des dents qu'on peut justifier les déboursés nécessaires pour réadapter la fonction masticatoire. De même, on pourra convaincre les patients de la valeur de leurs dents naturelles. Les besoins de prothèses dentaires et de chirurgie préprothétique seront alors considérablement allégés.

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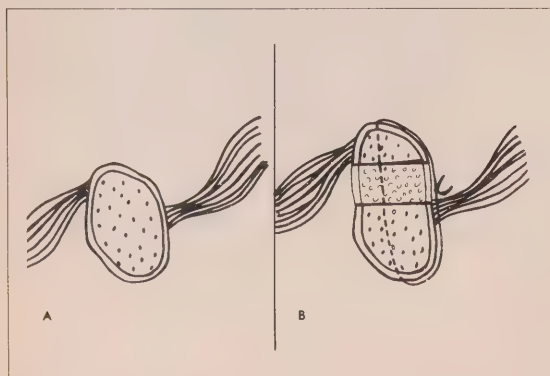


Figure 6 — Section horizontale du corps de la mandibule avec greffe osseuse intercalée pour crête déficiente en hauteur et en largeur.

Dr. Paul Mercier, DDS, FRCD (C), Clinique d'atrophie des maxillaires, Centre hospitalier St. Mary, 3830 ave. Lacombe, ch. 2337, Montréal, H3T 1M5, Québec.

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Canada's 37th Annual National Health Week, April 5-11, 1981. These dates have been chosen to include World Health Day, April 7th, with its theme: "Health For All By The Year 2000". Sponsored by The Health League of Canada, 76 Avenue Road, Toronto, Ont. M5R 2H1.

Journées Dentaires du Québec, Queen Elizabeth Hotel, Montreal, Quebec, April 26-30, 1981. Contact: Dr. Morton R. Lang, Journées Dentaires du Québec, 801 Sherbrooke Street East, Suite 303, Montreal, Que. H2L 1K7. Tel: (514) 481-0397.

May/mai

Canadian Radiation Protection Association's Second Annual Meeting, Government Conference Centre, Ottawa, Ontario, May 5-6, 1981. For Those interested in presenting papers, the deadline date for abstracts is February 15, 1981. Contact: D. Grogan, Chairman, Local Arrangements Committee, Radiation Protection Bureau, Health & Welfare Canada, Brookfield Road, Ottawa, Ont. K1A 1C1. Phone: (613) 998-4751.

Ontario Dental Association 114th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 24-27, 1981. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ont. M5R 2P1.

The 29th Annual Westcoast Dental Radiology Workshop, Empress Hotel, Victoria, British Columbia, May 21-24, 1981. Contact: Dr. Colin Price, Dept. of Oral Medicine, University of British Columbia, 2199 Wesbrook Mall, Vancouver, B.C. V6T 1Z7.

June/juin

Fourth Canadian Congress of Dentistry for Children, Harbour Castle Hotel, Toronto, Ontario, June 5-7, 1981. Contact: Dr. Keith Titley, 48 Cleveland Street, Toronto, Ont. M4S 2W2.

The Association of Canadian Faculties of Dentistry L'Association des facultés dentaires du Canada House of Delegates will meet at the Convention Centre, University of British Columbia, June 16-18, 1981. The Research, Education and Executive will meet June 14-15. Contact: Dr. J. Ton-zetich, 2075 Wesbrook Mall, University of British Columbia, Vancouver, B.C. V6T 1W5.

Yukon Dental Association's 1981 Convention, Kluane National Park, Yukon Territory, June 26-28, 1981. Contact: Dr. John Stern, 309 Wood Street, Whitehorse, Yukon Y1A 2E7.

Atlantic Provinces Dental Convention, Moncton, New Brunswick, June 28 to July 1, 1981, contact: Dr. Michael J. Crompton, 567 St. George Blvd., Moncton, N.B. E1E 2B9.

Convention Dentaire des Provinces de l'Atlantique, Moncton, N.-B., 28 juin au 1 juillet 1981. Pour plus de renseignements: Docteur Michael J. Crompton, 567 boul. St. George, Moncton, N.-B., E1E 2B9.

July/juillet

Western Canada Dental Society Convention, Winnipeg Inn, Winnipeg, Manitoba, July 1-4, 1981. Contact: Dr. Ted Derrett, Chairman, 1981 W.C.D.S. Convention, 300-296 Kennedy Street, Winnipeg, Man. R3B 2M6.

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Canadian Academy of Prosthodontic Annual Meeting, Calgary, Alberta, August 28-29, 1981. Contact: Dr. B.M. Jackson, 22-22 Water Street S., Kitchener, Ont. N2G 4K4.

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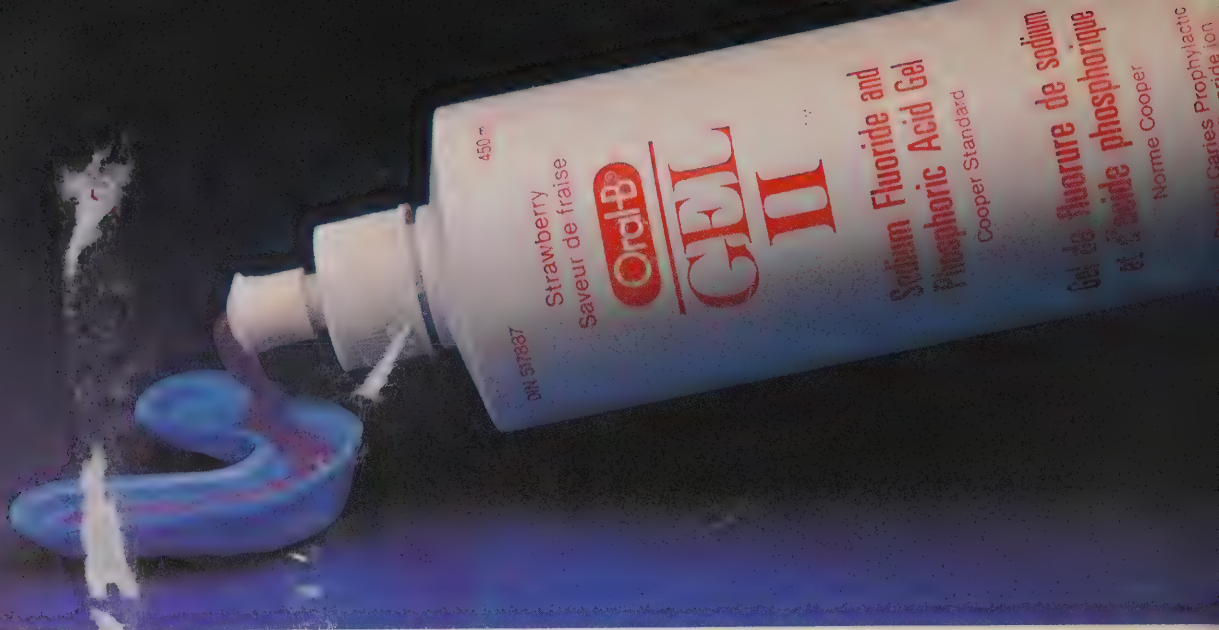
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*Yankell, S.L., U Pa Sch Dent Med, Phila, Penn IADR Journal of Dental Research, Jan 79, Vol. 58, P. 239, Abstr 585
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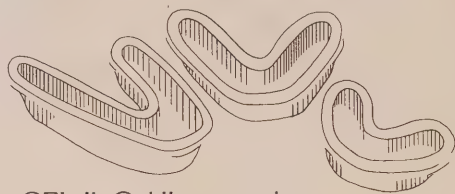
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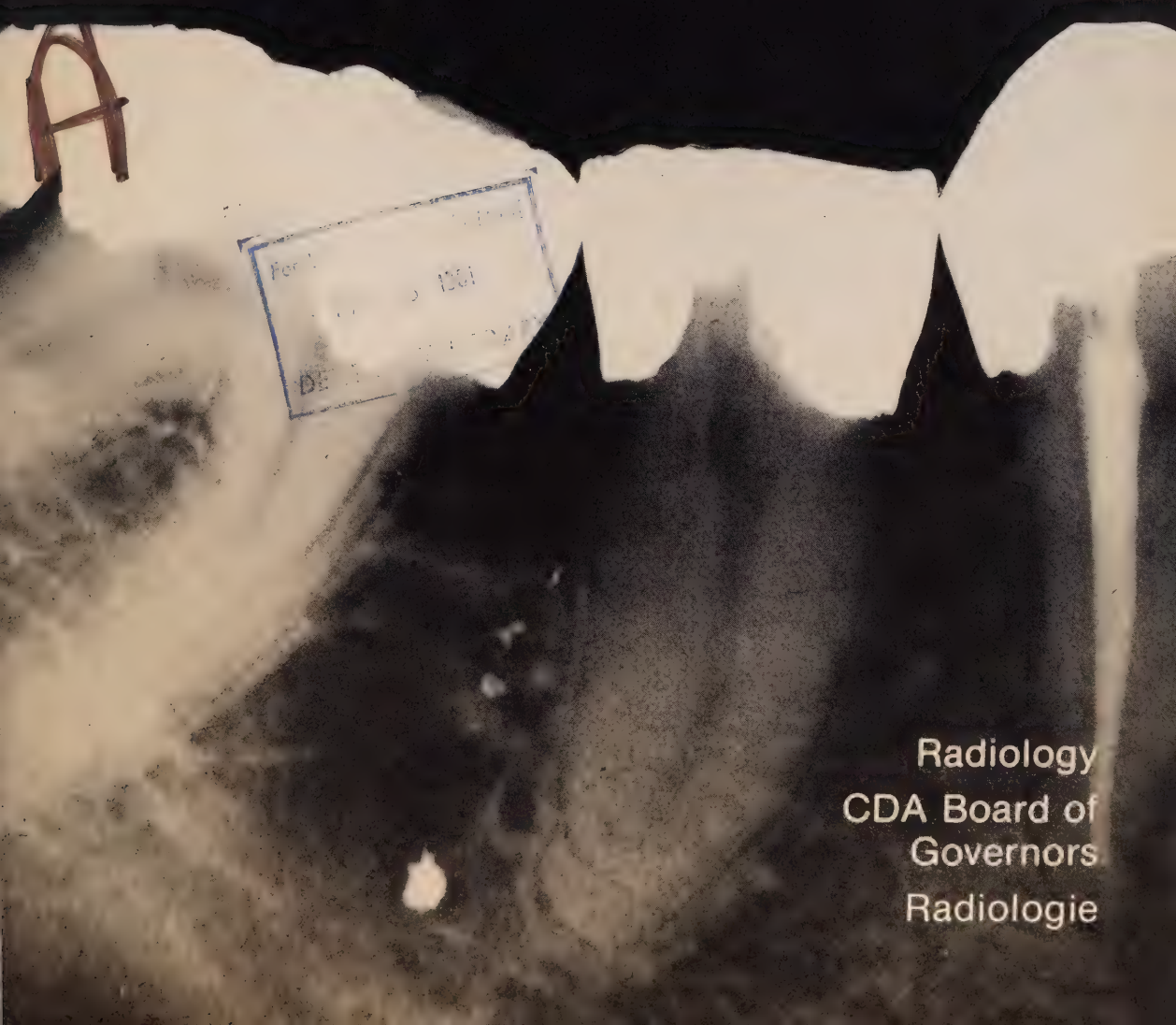
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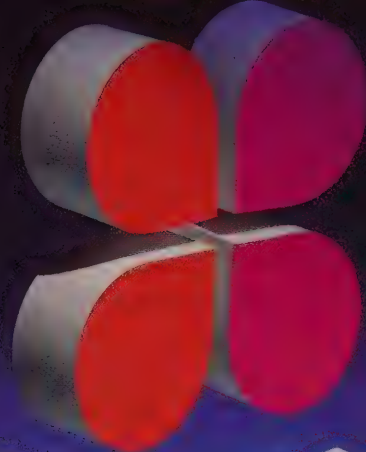
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J. Lawrence Fry, deputy minister of the department of National Health and Welfare told delegates to the Board of Governors meeting that his department is working towards a spirit of co-operation with the profession.

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About 50 delegates met to discuss CDA's priorities for the future.

210 Director of Education

Linda Teteruck has taken on new responsibilities as Director of Education, and will be co-ordinating development of a resource centre at CDA headquarters.

214 Manitoba Dental Association

CDA President Dr. Gil Utas joined with Manitoba Health Minister Bud Sherman in giving MDA delegates a look into the future for the dental profession.

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"This book is the most recent and intelligible effort at presenting the technology associated with various popular concepts of tooth replacement using implants. Yet, it has attempted to become a treatise on implants and has failed."

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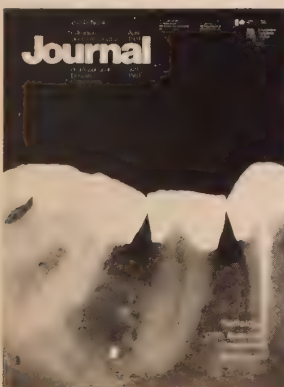
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225 Dental Anesthesia and Analgesia

"A most worthwhile book for general dentist and oral surgeon alike . . ."

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Radiology

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Éditorial

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intermédiaire du Conseil
d'administration.**

Le ministre adjoint de Santé et Bien-être social, M.J. Lawrence Fry, a déclaré aux administrateurs de l'ADC que son ministère désire collaborer avec la profession dentaire.

Actualités

241 **Atelier des priorités**

Environ 50 représentants se sont réunis pour discuter quelles seront les priorités de l'ADC à l'avenir.

242 **Directrice de l'Éducation**

À titre de directrice de l'Éducation, Mlle Linda Teteruck cumulera de nouvelles responsabilités dont l'établissement d'un centre de documentation au siège social de l'ADC.

240 **L'Association dentaire du
Manitoba**

Le président de l'ADC, le Dr Gil Utas, s'est joint au ministre de la Santé du Manitoba, M. Bud Sherman, pour donner aux représentants de l'ADM un aperçu de ce que sera la profession dentaire à l'avenir.

243 **Un assureur dentaire fait faillite**

Le Dr Covit parle de la faillite de la firme *Delta Dental and Co-operative Health Services*.

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224 **Surgical Atlas of Dental Implant
Techniques**

"Ce livre constitue l'effort le plus récent et le plus intelligent pour expliquer les techniques associées à divers concepts populaires touchant au remplacement des dents au moyen d'implantations. Pourtant, il se voudrait un traité sur les implantations et, à ce sujet, c'est un échec."

224 **Preprosthetic Oral and Maxillo-
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Spécialistes et praticiens généraux profiteront des renseignements que contient ce volume.

225 **Dental Anesthesia and Analgesia**

"Un livre très précieux pour les praticiens généraux et les chirurgiens buccaux..."

232 **Reportage sur le congrès**237 **Conseil d'administration**

Une assemblée intermédiaire a eu lieu à Ottawa, les 6 et 7 mars derniers. On en trouvera un compte rendu pages 234 et 239.

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Journal

de l'Association
Dentaire
Canadienneavril
1981

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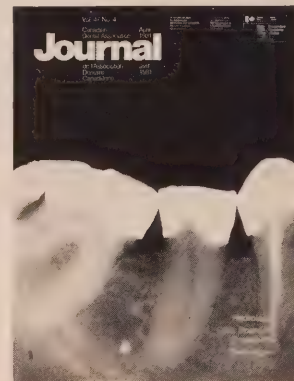
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Radiologie



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1. Zacherl, W. A., "Clinical Evaluation of a Sodium Fluoride-Silica Abrasive Dentifrice." *Journal of Dental Research*, Vol. 60, Special Issue A, page 577, March, 1981.

2. Beiswanger, B. B., Gish, C. W. and Mallatt, M. E., "Effect of a Sodium Fluoride-Silica Abrasive Dentifrice Upon Caries." *Journal of Dental Research*, Vol. 60, Special Issue A, page 577, March, 1981.



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KEYNOTE ADDRESS

Emphasizing the need for a spirit of co-operation between the Canadian Dental Association and the Federal Government, J. Lawrence Fry, deputy minister, National Health and Welfare, assured CDA Governors his department is actively working towards this goal.

"If we are talking closely together, if we understand there are no hidden agendas, things will work smoothly," said Mr. Fry, guest speaker during the first day of the Board of Governors Interim Meeting in Ottawa, March 6 and 7.

Because the main constitutional responsibility for health care lies with the provinces, the role of the Federal Government is one that requires "fairly constant grooming," Mr. Fry said. There are, however, areas of concern that are common across the country, such as preventive dental care.

"Some strong federal input can advance this area economically and quickly," he said. With both CDA and the Federal Government recognizing prevention as a priority "we could come together and complement one another's activities."

Mr. Fry updated progress on five issues of importance to dentists; some of which had been discussed during a meeting with him and representatives of his department and the Canadian Dental Association late last year:

1. The position of senior dental consultant for the Department of National Health and Welfare has been classified and recruiting has begun. "We expect to have a senior consultant identified within three months," Mr. Fry said.

The Canadian Dental Association has been asked to suggest possible candidates and to name a representative to the selection board.

The position of dental consultant will be senior in Health Services and Promotion, National Health and Welfare.

Mr. Fry promised to keep CDA informed and said "we look forward to the Association's participation."

2. Mr. Fry said the provision of dental services in the north is "an area where we seem to have had a certain number of differences in the past."

He said that through regional meetings held to determine demand and to review the positions of all therapists, coupled with a Health and Welfare commitment to use dentists in the north, the issue of dental therapists will be resolved.

"CDA has said dentists can meet the need. Therefore, it is incumbent on us to find out, as quickly as possible, how many positions dentists can actually fill. We must work together in an atmosphere of mutual trust," he said.

Dr. Bill Bedford, regional dental officer in Manitoba, will spearhead the effort to sort out the therapist issue.

"I think we are making progress," Mr. Fry emphasized. "What I am asking is that we work in a mode of sharing and co-operation to ensure the best possible dental care for the people of the north."

3. Mr. Fry noted the Department of Health and Welfare had made little use of the CDA Journal for advertising dental positions.

"It's one of the more effective ways to reach the dental professions and we plan to use it more in the future."

4. As a result of learning about CDA's current interest in the dental manpower situation, Mr. Fry invited the Association to attend a June meeting where a preliminary report on dental manpower will be presented for discussion.

5. In the area of dental research, Mr. Fry said approximately \$10 million is available through the National Health Research and Development Program. He noted that most dentists taking advantage of the program have been from universities but that some associated with dental clinics have also applied.

"This is a research-type program and projects are professionally adjudicated," Mr. Fry said. "Grants are given on the basis of professional acceptance of the project."

Other funds in the form of grants are available for health promotion. Mr. Fry suggested some of the \$2.1 million available may make it possible for the Canadian Dental Association to further promote prevention as a dental care priority in Canada.

In closing, Mr. Fry said he hoped he had conveyed his willingness to work with the Canadian Dental Association.

"We must work together, not at cross-purposes," he said. "With the Canadian Dental Association here in Ottawa, direct communication is much easier. I hope that will become increasingly more apparent to the dentists across Canada as time goes on."

(Readers are referred to a complete Board of Governors report on page 234 of this issue.)

DISCOURS PRINCIPAL

Tout en soulignant la nécessité d'entretenir un esprit de collaboration entre l'Association dentaire canadienne et le gouvernement fédéral, M. J. Lawrence Fry, ministre adjoint de Santé et Bien-être social Canada, a assuré aux administrateurs de l'ADC que son ministère travaillait activement pour atteindre ce but.

M. Fry avait été invité par l'ADC à prononcer un discours lors de la première journée de l'assemblée intérieure du Conseil d'administration qui s'est tenue à Ottawa, les 6 et 7 mars derniers.

"Si nous savons nous parler en toute honnêteté, a-t-il dit, si nous savons qu'il n'y a pas d'intention secrète, les choses s'arrangeront à l'amiable."

Parce que les soins de santé relèvent principalement des provinces, le rôle du gouvernement fédéral en est un qui demande à "être repensé presque constamment," a fait remarquer le conférencier invité. Cependant, il a admis que certains sujets préoccupaient le pays entier comme, par exemple, les soins dentaires préventifs.

"Une forte contribution du gouvernement fédéral dans ce domaine peut faire progresser les choses économiquement et efficacement," a-t-il déclaré. Comme l'ADC et le gouvernement fédéral reconnaissent tous deux que la prévention est une priorité, "il est possible que nous nous unissions et que nos activités se complètent."

M. Fry a fait état des progrès actuels touchant cinq questions d'importance pour les dentistes. Certaines de ces questions avaient été discutées au cours d'une rencontre que lui et des représentants de son ministère avaient eue avec l'Association dentaire canadienne à la fin de l'année 1980. Les voici:

1. Le poste de consultant dentaire principal pour Santé et Bien-être social a été classifié et le recrutement est commencé. "Nous espérons avoir un consultant dentaire principal avant trois mois," a déclaré le ministre adjoint.

Il a demandé à l'ADC de suggérer des candidats possibles et de nommer un représentant pour le comité de sélection.

Le consultant dentaire occupera un poste principal auprès de la Direction générale des services et de la promotion de la santé, à Santé et Bien-être social Canada.

M. Fry a promis de tenir l'ADC au courant à ce sujet et il a dit qu'il comptait sur la participation de celle-ci.

2. Quant à l'administration des services dentaires dans le Nord, M. Fry a avoué que "dans ce domaine, il semble y avoir eu certains désaccords dans le passé."

Grâce à des assemblées régionales tenues pour déterminer la demande et pour réviser les postes de tous les thérapeutes, et grâce aussi à l'engagement pris par Santé et Bien-être social d'utiliser des dentistes dans le Nord, la question des thérapeutes dentaires sera résolue.

"L'ADC a déclaré que des dentistes pourraient répondre aux besoins du Nord, a-t-il appelé. Aussi nous appartient-

il de déterminer le plus tôt possible combien de postes les dentistes peuvent présentement combler." Et il a ajouté: "Nous devons travailler ensemble en nous faisant mutuellement confiance."

Le Dr Bill Bedford, directeur de santé dentaire de la région du Manitoba, passera à la défensive pour régler le problème des thérapeutes.

"Je crois que nous faisons des progrès, a souligné M. Fry. Ce que je demande, c'est que nous travaillions dans une atmosphère d'entraide et de collaboration afin d'assurer à la population du Nord les meilleurs soins dentaires possibles."

3. M. Fry a remarqué que Santé et Bien-être social a eu peu recours au Journal de l'ADC pour annoncer les postes dentaires libres.

"C'est l'un des moyens les plus efficaces pour atteindre les membres de la profession dentaire, a-t-il avoué, et nous projetons de l'utiliser plus souvent à l'avenir."

4. Après avoir appris que l'ADC s'intéresse présentement à l'état de la main-d'oeuvre dentaire, M. Fry a invité l'Association à assister à une assemblée qui aura lieu en juin et au cours de laquelle un rapport préliminaire sur la main-d'oeuvre dentaire sera présenté aux fins de discussion.

5. Dans le domaine de la recherche dentaire, M. Fry a déclaré qu'environ dix millions de dollars sont disponibles par l'entremise du Programme national de recherche et développement en matière de santé. Il a noté que la plupart des dentistes qui profitent de ce programme sont attachés à des universités et qu'un petit nombre sont associés à des cliniques dentaires.

"Il s'agit d'un programme de recherche modèle, a déclaré le conférencier, et les projets sont jugés de façon professionnelle. Les subventions sont accordées en raison des suffrages que les professions respectives accordent à chaque projet soumis."

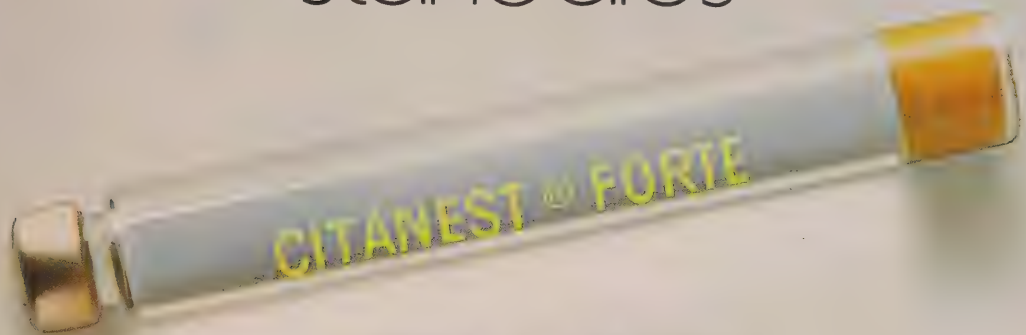
D'autres fonds sont disponibles sous forme de bourses pour promouvoir la santé. M. Fry a suggéré qu'une partie des 2,1 millions de dollars disponibles pourrait permettre à l'Association dentaire canadienne de promouvoir encore davantage la prévention comme un soin dentaire prioritaire au Canada.

Pour terminer, M. Fry a exprimé l'espoir qu'il avait persuadé ses auditeurs de sa volonté de travailler de concert avec l'Association dentaire canadienne.

"Nous devons travailler en collaboration, et non à des buts opposés, a-t-il déclaré. Avec l'Association dentaire canadienne ici, à Ottawa, la communication directe est facilitée. J'espère que ce fait deviendra de plus en plus évident pour les dentistes partout au Canada à mesure que les années passeront."

(Nous renvoyons le lecteur au rapport complet de l'assemblée du Conseil d'administration publié dans ce numéro.)

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Priorities

Close to 50 delegates attended the CDA workshop on priorities March 4 and 5 at Chateau Montebello, Quebec.

Above, one of the groups that met when the larger gathering broke up into small discussion sessions included, from left to right, Mr. K.L. Croft, Managing Director of College of Dental Surgeons of British Columbia; Dr. K.F. Pownall, Registrar, Royal College of Dental Surgeons of Ontario; Dr. D.V. Chaytor, President, the Association of Prosthodontists of Canada, Nova Scotia; Dr. R.L. Ellis, Secretary-Treasurer, Canadian Society of Public Health Dentists, Alberta; Dr. R.J. Sexton, Chairman, Council on Health Care, Ontario; and Col. J.M. Donley, Director, Dental Treatment Services, Department of National Defence.

Meeting date

ACFD/AFDC Annual Meeting, University of British Columbia, Vancouver, British Columbia, June 14 — 19, 1981. For further information contact: Dr. G.W. Myers, Executive Director, ACFD/AFDC, 5059 Dental Pharmacy Building, University of Alberta, EDMONTON, Alberta T6G 2N8.



Dr. G.W. Gordon, University of Minneapolis professor and facilitator for the workshop explains the procedure for the defining of priorities.

Faculties

University of Alberta Dr. Tony Hargreaves has joined the faculty as director of graduate studies and research. Dr. Hargreaves was formerly chairman of pediatric dentistry at Harvard University and dentist-in-chief at the Children's Hospital Medical Centre in Boston. He is a recognized authority in preventive dentistry and has published many significant articles on fluoride research.

University of Western Ontario The Westminster Institute for Ethics and Human Values will hold a workshop on bioethics June 14-20 at Westminster College. The workshop is designed for teachers, medical and law school faculty, health care professionals, clergy and others interested in the ethical, social and legal issues of health care. Topics include ethical issues of reproductive biology, informed consent, human experimentation, death and dying, teaching bioethics, behavior control, paternalism and truth telling, physician-patient relationship, justice in health care, defective newborns, and ethical issues of mental retardation.

Liz McKee resigns editorship

Liz McKee, first Ottawa Editor of the Journal, has left the Canadian Dental Association for new challenges.

Liz took over editorship of the Journal two years ago when publication of the magazine was transferred to Ottawa from Toronto.

Compliments directed to the "new" Journal are in a very large part due to Liz. She worked on the new format, created new areas of interest, wrote a great deal of mate-

rial, designed and photographed most covers, created a lot of contacts and worked extremely hard.

While the Editorial Board is looking to further development of the Journal, we are grateful for the significant progress that has already been made under her guidance.

*A.E. MacLeod
Chairman,
Editorial Board*

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Senior executive members of the American Dental Association met with their Canadian counterparts February 26 and 27 in Ottawa to discuss mutual concerns. From left to right: Dr. John Coady, ADA Executive Director; Hubert Drouin, CDA Executive Director; Dr. Clyde Covit, CDA Immediate Past President; Dr. John Houlihan, ADA President; Dr. Gil Utas, CDA President; Dr. Robert Griffiths, ADA President-elect; Dr. Donald Williams, CDA President-elect; and Dr. Burton Press, ADA Speaker, House of Delegates.

Quebec still promotes fluoridation

Rumours that Quebec bans fluoridation have proved to be false. In a letter to the Canadian Dental Association, dated February 11, 1981, an official of the Quebec Ministry of Social Affairs stated that the law concerning fluoridation had not been rescinded, however the ministry does not apply sanctions to recalcitrant municipalities that had fluoridated voluntarily.

The Quebec Assembly had adopted mandatory fluoridation in June 1975. However strong opposition

developed including that of Mayor Drapeau of Montreal. An advisory committee presented a report to the Minister of the Environment which condemned fluoridation and got extensive coverage from the media.

In spite of this, the Ministry of Social Affairs still believes in fluoridation and considers that it should be the basis for all dental public health programs. It continues the offer to pay the total cost of purchase and installation of fluoridation systems.



Dental Manpower was the topic of debate at a meeting held March 2 in Ottawa. Seated from left to right are: CDA president, Dr. Gil Utas; CDA President-elect, Dr. Donald Williams; Dr. Kent Nash, ADA, Director of Economic Research; Hubert Drouin, CDA Executive Director; CDA Immediate Past President, Dr. Clyde Covit; Dr. J. Stamm, President of the Canadian Society of Public Health Dentists, Quebec; Dr. R.K. House, Economic Consultant; Dr. Don Lewis, University of Toronto and Dr. R.J. Sexton, Chairman, Council on Health Care, Ontario.

Director named



Linda Teteruck

Hubert Drouin, executive director of the Canadian Dental Association, is pleased to announce the appointment of Linda Teteruck as director of education.

Ms. Teteruck has been director of student affairs since 1977, and in her new position will carry on the responsibilities of that post. She will function as co-ordinator of CDA conferences and continuing education and director of the resource centre at CDA headquarters.

A graduate of the University of Western Ontario, Ms. Teteruck holds a master of arts degree, and worked extensively with students throughout her university career.

She first began working with CDA in 1975 at Toronto headquarters as the administrator of the dental aptitude testing program.

Ms. Teteruck will continue to administer the DAT program, looking after 18 test centres where testing is done twice yearly.

She told the Journal that while she will be overseeing the new resource centre, a librarian will be "doing the nuts and bolts aspects of the development."

Work is now being done to review available materials and begin their collection.



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Schedule of Workshops

1981

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May 30-31	Toronto, Ontario*
June 13-14	Boston, Massachusetts*
June 13-14	Chicago, Illinois
June 27-28	Los Angeles, California
July 11-12	Monterey, California
July 18-19	San Francisco, California
July 25-26	Salt Lake City, Utah

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Dr. Richard C. Burns, Assistant Professor, Dept. of Endodontics, U. of Pacific,

Dr. Stephen F. Schwartz, Assistant Professor, Dept. of Endodontics, U. of Texas,

*Dr. Barry H. Korzen, Chairman of Dept. of Endodontics, U. of Toronto.

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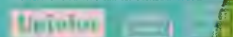
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See prescribing information on page 01



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE
1815 ALTA VISTA DRIVE, OTTAWA, ONTARIO, CANADA K1G 3Y6
TELEPHONE (613) 523-1770

1e 28 janvier 1981

er collègue,

Je vous demande, par la présente, de réexaminer, à titre de Canadien et d'abonné actuel ou ancien, votre abonnement au bulletin de la FDI pour 1981. Après le numéro du 15 mars 1981, seuls ceux qui auront renouvelé leur abonnement continueront de recevoir le bulletin. Par ailleurs, il est obligatoire d'être abonné au bulletin de la FDI pour pouvoir participer, du 4 au 10 septembre 1981, au congrès de Rio de Janeiro.

Pour participer aux congrès mondiaux de la fédération, il faut être membre de la I.D.A. Les dentistes canadiens peuvent y adhérer en devenant membres de l'Association dentaire canadienne.

Les frais d'abonnement sont de \$35 Canadiens pour le bulletin de la FDI ou de \$60 Canadiens pour le bulletin de la FDI et le Journal dentaire internationale. En plus de renouveler votre adhésion, nous vous exhortons d'encourager vos collègues de devenir aussi membres de la FDI. Une partie de ces frais servira à défrayer les dépenses administratives de l'Association dentaire canadienne à promouvoir ce programme de recrutement.

L'abonnement représentera votre contribution pour aider la FDI dans ses efforts d'encourager les soins dentaires à travers le monde, grâce à des échanges internationaux tant sur les connaissances scientifiques et les expériences. De tels échanges offrent au Canada autant d'avantages que peuvent en tirer les pays moins fortunés.

Veuillez renvoyer le feuillet ci-joint, accompagné de votre remise, à l'Association dentaire canadienne, 1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6.

Veuillez agréer, cher collègue, mes salutations les plus cordiales.

Gilbert Utas, DDS
Trésorier national au Canada
Fédération Dentaire Internationale

L'ASSOCIATION DENTAIRE CANADIENNE
1815, promenade Alta Vista, Ottawa, Ontario K1G 3Y6

MANDE D'ADHESION FEDERATION DENTAIRE INTERNATIONALE

Pour établir des contacts avec des dentistes du monde entier
Pour devenir un représentant de votre profession dans la communauté internationale
Les montants couvrent également les frais d'administration, le prix du change sur la monnaie américaine et les frais de représentation de l'ADC auprès de la FDI

\$35 Membre de soutien de la FDI et abonnement au bulletin trimestriel.

\$60 Membre de soutien de la FDI et abonnement au Journal dentaire internationale.

ADDRESS

LES FRAIS NE S'APPLIQUENT PAS AUX PERMIS D'EXERCER. Il s'agit d'un avis pour votre
satisfaction annuelle comme membre de soutien de la FDI. On vous prie de retourner ce
formulaire rempli, avec un chèque ou un mandat payable à l'ADC; recevrez un reçu et
votre carte de membre par le retour de courrier.



CANADIAN DENTAL ASSOCIATION / L'ASSOCIATION DENTAIRE CANADIENNE
1815 ALTA VISTA DRIVE, OTTAWA, ONTARIO, CANADA K1G 3Y6
TELEPHONE (613) 523-1770

January 28, 1981

Dear Colleague:

I am contacting you, as a current or former supporting member from Canada, to urge you to review your membership in FDI for 1981. After the March 1981 issue, only those who renew their membership will continue to receive the Newsletter, and also it will be necessary to be a supporting member to attend the Congress in Rio de Janeiro, 4 - 10 September, 1981.

Registrants to FDI world congresses must be supporting members of the Federation. To be eligible for supporting membership, Canadian dentists must be members of the Canadian Dental Association.

The subscription fee is \$35 (Canadian) or in combination with a subscription to the International Dental Journal, \$60 (Canadian). We urge you to not only renew your membership but to encourage your colleagues to join FDI as well. Part of this fee will go to help meet the administrative expenses incurred by the Canadian Dental Association for the supporting membership program.

Your membership fee is your contribution in support of FDI in its effort to promote improved dental health on a worldwide basis through international exchange of scientific knowledge and expertise. The profession in Canada benefits from this exchange as do the less fortunate countries of the world.

Please return the enclosed slip with your remittance without delay to the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6.

Yours sincerely,

Gilbert Utas, D.D.S.
National Treasurer - Canada
Fédération Dentaire Internationale

CANADIAN DENTAL ASSOCIATION
1815 Alta Vista Drive, Ottawa, Ontario

MEMBERSHIP APPLICATION FEDERATION DENTAIRE INTERNATIONALE

- To develop contacts with dentists from around-the-world
- To be part of your profession's voice in the international community
- Fees include, administration cost, U.S. premiums, CDA representation to FDI

----- \$35 FDI Supporting Membership will receive the Quarterly FDI Newsletter and
----- Membership Card

----- \$60 FDI Supporting Membership and Subscription to International Dental Journal

NAME _____ ADDRESS _____

THIS IS NOT A LICENCE FEE, this is your remittance for annual supporting membership, please return this form with your remittance payable to CDA; a receipt and membership card will be issued.

Motrin (ibuprofen)

Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 360 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain, accompanied by inflammation, in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Ibuprofen should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to acetylsalicylic acid or other non-steroidal anti-inflammatory agents. (see WARNINGS).

Ibuprofen should not be used during pregnancy, in nursing mothers or in pediatric patients because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving ibuprofen. Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with ibuprofen, a cause and effect relationship has not been established. Ibuprofen should be given under close supervision to patients with a history of upper gastrointestinal tract disease.

Precutions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS). The drug should be discontinued and the patient should have an ophthalmologic examination.

Fluid retention and edema have been reported in association with ibuprofen, therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Ibuprofen, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Ibuprofen has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, ibuprofen should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on ibuprofen should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When ibuprofen is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with ibuprofen therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to ibuprofen such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering ibuprofen therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants - Several short-term controlled studies failed to show that ibuprofen significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when ibuprofen and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering ibuprofen to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with non-steroidal anti-inflammatory agents including ibuprofen yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on ibuprofen blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with ibuprofen:

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to ibuprofen cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with ibuprofen therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn.

Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System:

Incidence 3 to 9%: dizziness.

Incidence 1 to 3%: headache, nervousness.

Incidence less than 1%: depression, insomnia.

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities.

Dermatologic:

Incidence 3 to 9%: rash (including maculopapular type).

Incidence 1 to 3%: pruritus.

Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme.

Causal relationship unknown: alopecia, Stevens-Johnson syndrome.

Special Senses:

Incidence 1 to 3%: tinnitus.

Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during ibuprofen therapy should have an ophthalmologic examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis.

Metabolic:

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic:

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit.

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematoma, menorrhagia).

Cardiovascular:

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations).

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS).

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome.

Endocrine:

Causal relationship unknown: gynecomastia, hypoglycemic reaction.

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia.

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of ibuprofen each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of ibuprofen reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: *Rheumatoid arthritis and osteoarthritis:* The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain associated with inflammation, dysmenorrhea: 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets and 600 mg (peach) film coated tablets in bottles of 100 and 1000.

Product monograph available on request.

7910 REGISTERED TRADEMARK MOTRIN CE 1542 1A

Upjohn

THE UPJOHN COMPANY OF CANADA
865 YORK MILLS ROAD
DON MILLS, ONTARIO

EMAC

PAAR

CCIP

Wrong Price

We were delighted to receive a copy of Volume 47, No. 1 of your Journal particularly as there was an absolutely superb write-up on "Person Identification by Means of the Teeth" by Keiser-Nielsen.

In the penultimate paragraph of this review your Reviewer quotes the unexpected surprise that the book costs \$10.00 only. Sadly, he is wrong the price of the book is £10.00. Obviously, if we get enquiries we will be able to rectify this but I wondered if it was possible for you just to put a note in your next issue.

Jean M. Eales,
Executive Sales Director,
John Wright & Sons Ltd.,
Medical Publishers,
Bristol,
England.

Dentist MP

A recent issue of The Journal enumerated those dentists who have served in both the House of Commons and Senate of Canada.

I would like to amend this list by adding the name of Dr. T.A. (Bud) Bradley, PC Member for Norfolk-Haldimand who has been seated in the last two parliaments.

N.H. Andrews, B.Sc., D.D.S.,
Halifax, Nova Scotia.

Editor's note: We refer readers to the February, 1981 Journal in which an article on Dr. Bradley appeared.

Manitoba minister cautious, but optimistic

"The whole thrust of dental health in Manitoba is under scrutiny and study, by my department and your profession."

This message was delivered by Manitoba's minister of health, L.R. (Bud) Sherman to delegates at the Manitoba Dental Association's February annual meeting in Winnipeg.

Sherman said the groundwork for an exciting future has been laid in "recent years, weeks and days," and he emphasized the importance of the dental professions in the health care delivery system.

After meetings with executive officers and committee members from the MDA, Sherman said there is no doubt the profession and the Manitoba department of health are planning for progress in the future.

He cautioned that big plans aren't immediate, except in the area of expansion of the children's dental health program.

"The next fiscal year will see the maintenance of the status quo," he said.

Sherman stressed this was not a result of fiscal restraint, and that the government intends to move as rapidly as possible towards a more comprehensive dental program.

But, he said "we must move slowly, deliberately and carefully."

"If we work together, we can phase in a very comprehensive dental treatment program for Manitoba in the 1980s, but there is a long way to go," Sherman said.

He said the first question revolves around the individual's personal responsibility for health care, and he posed the question "what can government and the profession do to make people aware?"

Sherman said this was a complex problem, not solved simply by communications.

The availability of service does not guarantee the service will be used, he said.

Children are the focus, and preventive dentistry is one of the key components of dental health care, he said.

Thirty years ago, when tooth decay was recognized as a serious problem, dentists led the way with fluoridation and other programs, he said.

"By encouraging fluoridation you

may have contributed to putting yourselves out of work, but your sense of professionalism makes you work in that direction," Sherman said.

He said in the past, there has been a great deal of "repair medicine" which he called a "bad habit."

A continuing contribution from the profession is called for.

"We want to avoid a government quarterback calling your plays," he said.

President outlines challenges

Dr. Gil Utas, president of the Canadian Dental Association, outlined CDA's current activities on behalf of the profession to delegates at the recent Manitoba Dental Association annual meeting.

He said the 1981 membership campaign was going well, and that CDA is financially sound.

"It is the responsibility of CDA to speak on behalf of dentists in Canada," he said, and recent discussions have shown that CDA is being heard in Ottawa.

A strong letter of protest was sent to the government seeking a return to duty free status for dental materials. A positive response was received from Health Minister Monique Bégin, Dr. Utas said.

He said the next step will be meetings with senior finance department officials, and CDA has a tariff expert working out strategy for those meetings.

Individual dentists were encouraged to write to the finance minister or their own MPs on this subject.

Dr. Utas outlined the challenges facing the profession. These include the issues of dental therapists, manpower, Cornwall Island and fluoridation.

He said there are 1,000 fewer pa-

tients per Canadian dentist today, and some dental schools are reducing enrolment. These actions are a result of fluoridation, preventive dentistry, auxiliary personnel and general increased productivity in the dental office.

Another "pressing challenge" is alternate delivery systems, including capitation, closed panels, health maintenance organizations and retail dentistry.

Dr. Utas discussed the continuing controversy over fluoridation, and said "the CDA strongly reaffirms its stand on fluoridation." He told delegates about the five-section report commissioned by CDA, portions of which have appeared in the February and March issues of the CDA Journal.

The report has the endorsement of the Canadian Medical Association, he said.

Institutional advertising is under study, he said, and a decision has been taken to hold back on the commitment of funds until results in Ontario and the United States can be assessed.

"We require a strong national organization to protect our profession. In unity there is strength. Ours is not a we and they profession. We must travel together," he said.

Economic outlook not all doom and gloom

Ron House, a Toronto economist, received a standing ovation when he told Manitoba dentists the message of gloom and doom in dentistry may have a silver lining.

Dr. House, economics consultant for the Manitoba Dental Association,



Dr. Robert Baker

New President

Dr. Robert C. Baker was installed as the 57th president of the Manitoba Dental Association at the recent annual meeting.

He attended the University of Manitoba, graduating in 1963, and completed studies in orthodontics at the University of Toronto in 1967.

Dr. Baker has served on several MDA committees and has been on the board of directors since 1976.

Others named to the MDA board were: Dr. Ussher Claman, Dr. Harold Diamond, Dr. John Dillon, Dr. Gene Solmundson, all of Winnipeg; Dr. Carl Enns, Portage la Prairie; Dr. Orville Heschuk, Dauphin; Mrs. Joanne Gilbert, auxiliaries representative; and David Snitka, representing the minister of health.

has worked extensively with organized dentistry in several Canadian provinces and predicts changes in the nature of the practice of dentistry are necessary in order for the profession to cope with external factors and expectations.

Dr. House spoke to delegates at the Manitoba Dental Association's annual meeting in February.

He said professions are no longer an elite. The supply of highly educated people who have moved into the upward-mobile group has resulted in lower salaries. Fewer and fewer people are willing to perform menial jobs.

Dental associates in California may earn between \$80 and \$100 a day, which is equivalent to the salary of a garbage man in North York.

Dr. House said doctors, lawyers and dentists have been fighting this compression of the income scale on the basis of failed negotiations, but predicts the compression will continue until the end of the century.

"Our relative position in society is somewhat threatened," he said.

He said 10 years ago Canada would have ranked second on the scale of prosperous countries, but now would not even be in the top 10.

This is a result of poor government decisions and attitudes. "Canada will move away from its role as an industrial nation," he said.

Industries lost from central Canada are going to Third World countries and the sunbelt of the United States.

"We may go back to the traditional hewers of wood and drawers of water role," he said.

Manitoba's future is more bleak, he said.

"There are major shifts going on. Manitoba is like the eye of the cyclone. Nothing much is going to happen here economically," Dr. House said.

The world is in trouble in the economic sense because real growth has stopped and real growth is not foreseen, he said.

"It's possible we may see a rapid disengagement of government from the individual's style of life and from dentistry. By 1990, I wouldn't be surprised if we're trying to keep government involved," he said.

Dr. House said the Winnipeg area faces a fairly desperate manpower situation because rural areas are almost saturated, and larger numbers of graduates will be coming to Winnipeg. This will result in changes in the nature and delivery of dentistry.

The key to success in the future is better practice management, not higher fees, Dr. House said.

A chronic oversupply of dentists was predicted for 1980 and no dental graduates in the past 10 years have said they are too busy, he said. Graduates from 20 years ago find their practices are strong and healthy. "We are going to have a generation gap."

The biggest impact will be on the younger practitioner because of a decline in demand and a significant increase in the supply of dental services.

The number of dentists is changing dramatically, and by the year 2,000, there may be more than 800 dentists in Manitoba with no corresponding significant growth in population.

Over the next 20 years there will be more and more group practices, he said.

Multi-chair practices have not proved as successful as first envisioned, and Dr. House advised practitioners to "stop" at three chairs.

The number of auxiliaries has increased; the quality is improved and they remain in practice longer now than in past years. Productivity has also increased.

In the News

With these improvements, and advances in technology, a one to 1.5 per cent increase in productivity is predicted — "a rather handsome figure compared with other professions", Dr. House said.

With a relatively static patient pool in Manitoba, and a changing age mix, practices could be less busy. There will be more and more older people, and children are traditionally the best users of dental services.

Dr. House foresees a change in dentistry from extractions and restorations to concern with periodontal disease and prevention, but cautioned this attitude is not prevalent among third party carriers or government.

Dentistry has been perceived as a luxury item, he said, and this attitude could reassert itself if there is an economic depression.

"We are going to see more and more concern about individual health, and dentistry will be seen as a necessity," he said.

Over the short haul, government is going to be more involved in the profession, he said, but the problem is politicians are only now becoming aware of what dental health involves.

The parallel of dentistry with medicine is a poor one, he said and the better parallel would be to auto insurance. The responsibility for good dental health lies with the patient as does the responsibility for car insurance, he said.

As research continues, government will see this, and in the future governments may throw areas of social responsibility back to the private sector.



Dr. Cedric Allaby, a practising dentist from Moncton, has skipped his team to two successive provincial curling bonspiel championships. Dr. Allaby, a graduate of McGill, is a past-president of the Moncton and New Brunswick Dental Societies. His successful curling prowess lead his team to the National Championships in Nanaimo, B.C. last month.

Fee structure

The public generally believes dental fees have increased over the general rate of inflation, Dr. Ron House told MDA delegates recently.

"That is not true," he said.

"The level of fees is not important in and of itself. What is happening to the level of incomes and care the public is receiving is what counts."

Attempts to keep up with inflation could overprice dentistry and reduce demand, so the question is to determine a fee schedule that will "keep the appointment books full," he said.

Dentists' incomes are under attack and some understanding from the public is required.

"We never have to be apologetic. We do not try to maximize fees, but retain real income," he said.

Australians favor fluoride

After a one-year intensive study of scientific data, water fluoridation has been reaffirmed in Victoria, Australia. Commissioned in March, 1979 and released late last year, the "Report of the Committee of Inquiry into the Fluoridation of Victorian Water Supplies" is based on data from dental health organizations in Australia, the United States, South Africa, England and Canada. Submissions were also received from individuals and groups both in support of and against fluoridation. Four non-dentist scientists evaluated the material and testimony and issued the report.

The purpose of the study was to examine scientific evidence released since 1973, the year of the enactment of a non-compulsory Fluoridation Act.

The panel's conclusions were: 1) There is overwhelming evidence the regular ingestion of water containing

fluoride is an effective measure in reducing the incidence of dental caries; 2) The cariostatic effect of such ingestion in early life will be carried through adult life, but even so, continued ingestion during adult life adds further benefit; 3) The beneficial effects of fluoride are greatest when optimal intake starts in early life; 4) Fluoridation of water supplies is the safest, most economical and effective known way of distributing fluoride to a community; 5) Assertions that fluoridation of water supplies at recommended levels has toxic, carcinogenic, mutagenic, teratogenic, or allergenic effects on humans are not supported by sound, scientific evidence. There is no evidence that fluoridation at recommended levels has any harmful effect. 6) Fluorine is an essential trace element; the purpose of fluoridation of water supplies is to adjust the fluoride content to its optimal beneficial level.



NOW YOU CAN TAKE CARE OF THEIR TEETH AFTER THEY'VE LEFT YOUR CHAIR.

At the same time a patient leaves your office, he can now leave with an extra measure of your dental care. Fluorinse, home sodium fluoride treatment, can extend dental protection far beyond the limits of your office chair. And it's available in two strengths and three patient-pleasing flavours as either a daily 0.05% or weekly 0.2% rinse.

Fluorinse is particularly recommended for:

- decay prone children
- caries rampant adults
- patients with poor dental hygiene habits
- orthodontic or periodontic patients
- patients with sensitive tooth necks

And for children that may not be able to control their swallowing reflex, there's orange or strawberry flavoured FLOZENGES® tablets which provide both topical and systemic effects.



Cooper Laboratories Limited
Boisbriand, Quebec

FLUORINSE®

(Sodium fluoride oral solution)

COMPOSITION: Contains sodium fluoride in a pleasantly flavoured solution at neutral pH. Contains alcohol (3% by volume).

INDICATIONS: Dental caries prophylactic

PRECAUTIONS: For buccal administration only.

DO NOT SWALLOW

Swallowing of solution may cause nausea. Usage in excess of recommended dosage may cause dental fluorosis.

DIRECTIONS: Swish vigorously in the mouth for approximately 1 to 2 minutes (preferably at bedtime after brushing and flossing teeth thoroughly) 1 to 2 teaspoonfuls (5 to 10 ml) of FLUORINSE.

Expectorate, DO NOT SWALLOW. For maximum benefit, do not eat or drink for a period of 30 minutes after rinsing.

Weekly Rinse	Daily Rinse	Weekly Rinse
Cinnamon (red)	Ice Mint (blue)	Mint (green)
0.2% sodium fluoride	0.5% sodium fluoride	0.2% sodium fluoride

HOW SUPPLIED: Fluorinse is available in 450 ml plastic bottles with child-resistant caps.

CAUTION: Keep out of reach of children.

FLOZENGES®

(Sodium fluoride tablets)

COMPOSITION: Contains sodium fluoride in lozenge form. Contains no sugar, saccharin or cyclamate.

INDICATIONS: Dental caries prophylactic for buccal and systemic administration.

PRECAUTIONS: If this product is used in an area where the drinking water has a natural fluorine content in excess of 0.7 parts of fluoride ion per million parts of water, or is artificially fluoridated, fluorosis of the tooth enamel may result.

CONTRAINDICATIONS: Sodium-free diets

RECOMMENDED DOSAGES SCHEDULE:

Age	Concentration of fluoride in drinking water (p.p.m.)		
	<0.3	0.3-0.7	>0.7
2 weeks to 2 years	0.25 mg daily (½ orange tablet)	0 mg daily	0 mg daily
2 to 3 years	0.5 mg daily (1 orange tablet)	0.25 mg daily (½ orange tablet)	0 mg daily
3 to 16 years	1.00 mg daily (1 strawberry tablet)	0.5 mg daily (½ strawberry tablet)	0 mg daily

After brushing the teeth allow the tablet to dissolve slowly in the mouth and swallow the resultant liquid. Initially, for infants, the tablet can be dissolved in juice or crushed in food. However, once teeth have erupted the infant should be encouraged first to chew and eventually, when older, to suck the tablets as described above.

HOW SUPPLIED: Flozenges are available in plastic child-resistant containers of 120 lozenges.

Two Flavours:

Orange	Strawberry
0.5 mg of fluoride ion	1.0 mg of fluoride ion

CAUTION: Keep out of reach of children. Exceeding recommended dosage over a prolonged period of time may be harmful.

Available in pharmacies only
Full information on request



Cooper Laboratories Limited
Boisbriand, Que.

Continuing Dental Education

Sponsoring Institution/Address	Location of Course	Title of Course	Subject Area	Date	Style	Instructor(s)	Registration	Fee	Audience	Contact Person/Telephone
McGill University Faculty of Dentistry Strathcona Dentistry Building, Room M-74, 3640 University Avenue, Montreal, Quebec H3A 2B2	Montreal, Quebec	Advances in Medicine of interest and concern to all dentists	Medicine	May 29, 1981	Lecture	Dr. Phil Gold Dr. John Burgess	Open	\$40.	General practitioners and specialists	Dr. M. Rennert (514) 392-3017
Dalhousie University Faculty of Dentistry Halifax, Nova Scotia, B3H 3J5	Halifax, Nova Scotia	CPR Refresher Course	Cardiopulmonary resuscitation	May 10-12 1981	Demonstration		Open	Free	All who have completed CPR course	Kaileen Vaison (902) 424-2248
Dalhousie University Faculty of Dentistry, Halifax, N.S., B3H 3J5	Halifax, Nova Scotia	Post College Assembly '81	Dentistry and the Handicapped; Dentistry and Communicable Diseases	May 10-12 1981	Lecture; Demonstration	Dr. Leonard Smith	Open	Undecided	General practitioners; Specialists; assistants; hygienists; lab technicians; other	Kaileen Vaison (902) 424-2248
Dalhousie University, Faculty of Dentistry, Halifax, N.S. B3H 3J5	St. John's Newfoundland	Operative materials	Operative dentistry	May 29, 30, 1981	Lecture; Demonstration	Dr. Derek Jones Dr. Ron Bannerman	Open	\$85 (DDS) \$45 (auxiliary)	General practitioners; specialists; assistants; hygienists	Kaileen Vaison (902) 424-2248

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British Columbia negotiates agreement

The following is an outline prepared by Dr. T.E. Ramage and a copy of the Memo Agreement reached by the College of Dental Surgeons of British Columbia and the B.C. government at a recent negotiating session.

The negotiating committee recommends this agreement strongly, and the Executive Committee has approved it. For the services it covers, the Dental Plan will pay the same fees as in our 1981 College fee guide (except that the children's preventive package is only in the Plan schedule).

The average over-all fee increase in the Dental Plan schedule for general practitioners is 12.76 per cent. But there are some variations for special reasons. For instance, College negotiators insisted on building the real costs of amalgam into the fee schedule. Therefore the current fee (without surcharge) will be increased by the general 12 per cent plus our current amalgam surcharge. The College fee guide and the Dental Plan schedule both will list the new fees for these services, and the term "surcharge" will disappear.

Adding the full amalgam charge boosted the over-all average increase in the schedule to more than 13 per cent; therefore, it was necessary to negotiate slightly smaller increases in some other services to balance out. These are services with considerable involvement of auxiliary assistance, such as radiographs and preventive services, including the special children's package. (The latter is to be divided into two packages — one with fluoride and one without.) This group of services is increased by 10 per cent.

There has been an historic difference in the costs of dentures provided by dentists and by other persons. While we defended the differences on the basis of services performed, we were only able to negotiate an eight

per cent increase for complete dentures.

In our first agreement negotiated last year, a schedule for specialist oral surgery was included. That schedule will be increased by the same average over-all 12.76 per cent. The same applies to the Academy of Dentistry denture clinic schedule.

For the first time we have negotiated specialty schedules for Endodontists and Periodontists. Other specialties will continue at 110 per cent of the G.P. rate (for referred patients).

A change will be made in the Dental Plan G.P. schedule increasing the maximum time allowance for scaling, root planing and curettage (43400, 43410, 42001) from two hours to three hours.

The 1981 College fee guide for general practitioners will come into effect March 1. The Dental Plan schedules also come into effect March 1 and will continue through March 31, 1982. The percentage increase which would have been 11.8 per cent over 12 months has become 12.76 per cent to cover the 13-month agreement. The reason for the March 31 expiry date is that the government's fiscal year begins April 1, and all similar agreements are geared to that date.

Memo of Agreement

It is agreed by the bargaining committees, subject to ratification by the principals of both sides, that the following changes in fees and conditions of the Dental Care Plan of British Columbia will be made:

- with the specific exceptions listed below, effective from March 1st, 1981 to March 31st, 1982, (13 months) an average fee increase of 12.76 per cent to be established by a general fee increase of 12 per cent and an additional increase to recognize the increased cost of amalgam — \$1.00 single surfaces,

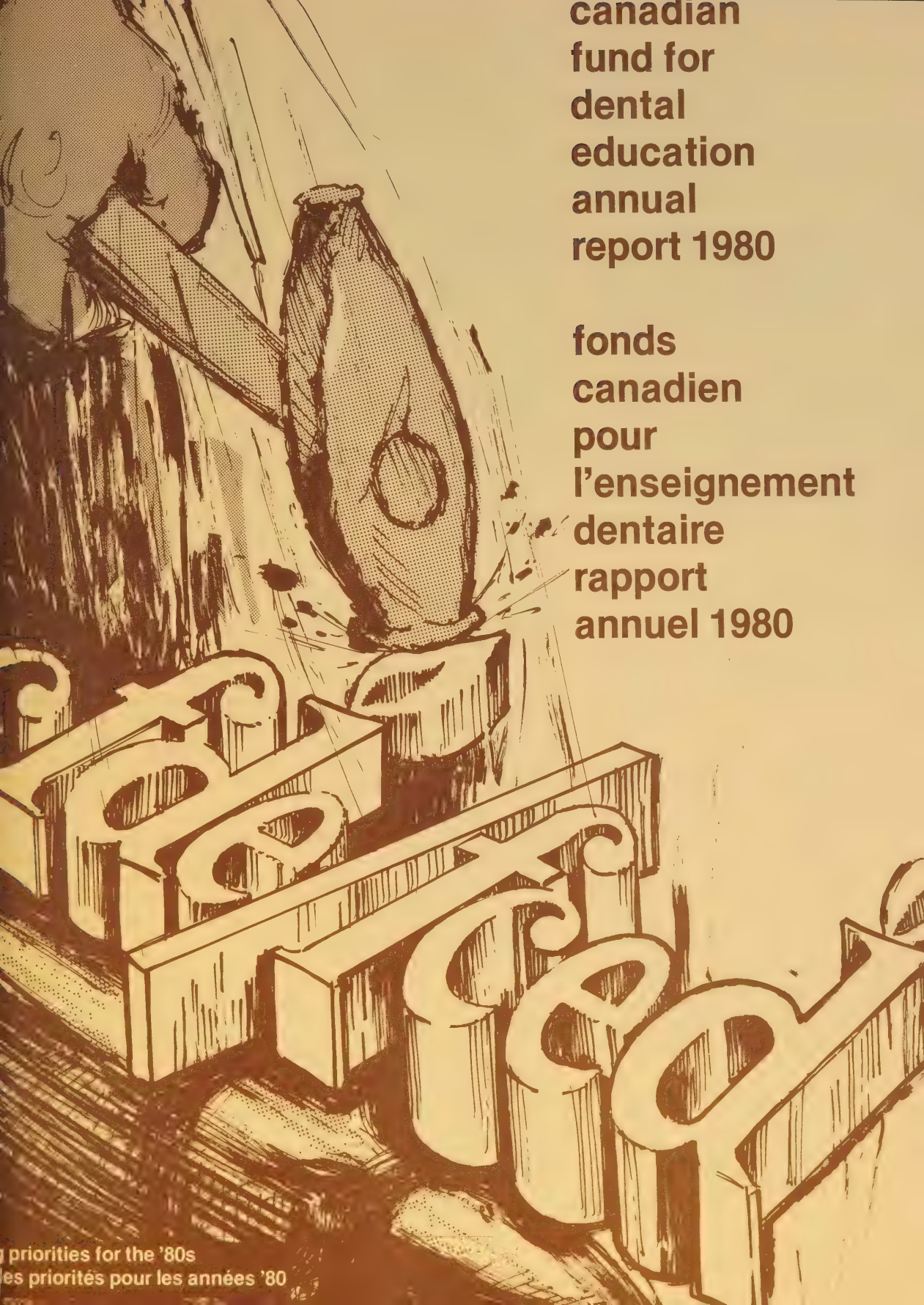
\$1.25 — two surfaces, \$2.00 — three or more surfaces, to be added to restorative items 21101 to 21303.

- a fee increase of 8 per cent on complete and immediate dentures — fee items — 51100, 51110, 51120, 51300, 51310 and 51320.
- a fee increase of 10 per cent on auxiliary — performed services (radiographs, preventive services including children's preventive care package) — fee items — 02111 to 02204, 02600, 02504, 02701, 02702, 02703 (radio-graphs)*, 11001 (preventive package)*, 11002 (preventive package without fluoride)*, 11100, 11200, 11300 (prophy)*, 12300, 12310, 12320 (fluoride)*.

* (descriptions added by College)

- Academy of Dentistry fees increase by 12.76 per cent and new items as agreed upon.
- Oral Surgery Fees increase by 12.76 per cent.
- Periodontists' and Endodontists' fees in accordance with agreed upon schedules.
- Pedodontists to receive General Practitioner rates plus 10 per cent.
- Clarification of funding principles as follows:

Within the Province of British Columbia, fee-for-service billing will be accepted from and on behalf of practitioners licensed by the College of Dental Surgeons or on behalf of such agencies, corporations or organizations as are duly authorized by the College of Dental Surgeons or by the Minister of Health following consultation with the College, to receive or submit fee-for-service billings. The College of Dental Surgeons shall notify the Commission in writing of any agencies, corporations or organizations that are so authorized to receive or submit fee-for-service billings.



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g priorities for the '80s
les priorités pour les années '80

chairman's report

All of us who have supported CFDE's programs can take a great deal of pride in what has been accomplished since the Fund was organized just eighteen years ago.

Over one and a half million dollars have now been invested in carefully researched projects that have benefited practising dentists, dental schools, teachers, students, auxiliaries and the patients who are receiving unsurpassed dental health care.

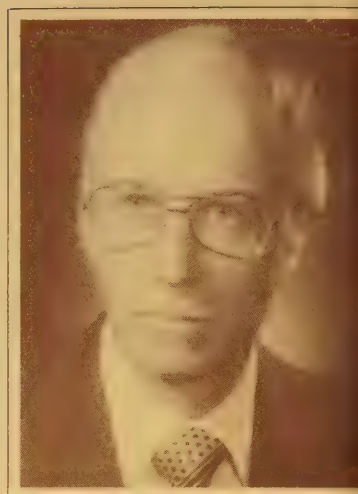
While this outstanding record provides great satisfaction, there is certainly no room for complacency. The Fund, like everything else, is caught in the inflationary spiral.

In the eighties CFDE must forge ahead and seek many new supporters as well as increased contributions from present sources. This is the only way we can move forward as we must.

CFDE's Trustees have always applied carefully determined granting priorities since the Fund was first organized. However, we know that dental education, research and practice have all undergone major changes over the past few years. They will continue to be subjected to more, and perhaps different, community pressures over the coming years.

Therefore, in order to have the Fund's granting priorities in tune with the latest community requirements and professional attitudes, an Ad Hoc Committee has been formed to make recommendations for the Fund's granting priorities for the next five year period. It is also part of its responsibility to suggest ways and means of reaching these objectives.

The Ad Hoc Committee, chaired by Dr. W.G. McIntosh, consists of four dentists, a dental hygienist and a representative from business and industry. A great deal of information has now been collected and one meeting already held. It is expected the Committee's report will be completed about the middle of 1981.



You will recall that in 1979 both the dental profession and business and industry established record levels of support.

Unfortunately in 1980 we fell a little short of the record totals in both cases, even though total income was about the same in the two years due to increased investment and sundry income.

It is most encouraging to note the 9% increase to 275 in the number of dentists who became Honour Members of the Fund in 1980 (contributors of \$100 or more). In fact, 61 dentists forwarded gifts well in excess of \$100.

Another bright spot in 1980 was a 6% increase over the previous year of \$7,300 or 6% in awards. A detailed analysis of how your support is helping to benefit dentistry is shown later in this report.

I want to assure you that our continuing goal will be the advancement of the standards and prestige of dentistry and the promotion of a constantly improving level of dental health care.

May I express my deep and abiding gratitude to all who contributed to CFDE in 1980. Your support is as much appreciated as it is needed and I look forward to your continued and generous help in 1981.

A handwritten signature in dark ink, reading "James A. Guest". The signature is fluid and cursive.

James A. Guest, D.D.S.

e rapport du président

Tous ceux d'entre nous qui ont appuyé les programmes du FCED peuvent être justifiablement fiers de leurs réalisations depuis l'établissement du Fonds il y a maintenant environ 18 ans.

Plus d'un million et demi de dollars ont été investis dans le cadre de projets soigneusement étudiés, dont ont pu tirer profit les dentistes, les écoles de médecine dentaire, les enseignants, les étudiants, les auxiliaires et les patients qui reçoivent aujourd'hui des soins dentaires sans égal.

Bien que ces considérables réalisations offrent une grande satisfaction, il n'y a certes pas lieu d'éprouver un faux sentiment de sécurité. Comme toute autre chose, le Fonds est frappé par l'escalade inflationniste.

Le FCED doit aller de l'avant pendant les années '80; il doit trouver de nouvelles sources d'appui et chercher l'augmentation des contributions en provenance des sources actuelles. Il s'agit-là de la seule façon de faire les progrès voulus.

Depuis les tout débuts du FCED, les fiduciaires ont toujours soigneusement établi des priorités lorsqu'il s'agissait d'accorder des subventions. Nous savons toutefois que non seulement l'enseignement, la recherche et l'exercice dentaires ont fait l'objet de changements considérables ces dernières années, mais que la profession continuera à être soumise à différentes autres pressions au cours des années à venir.

En vue d'adapter les priorités du Fonds aux dernières exigences et attitudes professionnelles de la collectivité, nous avons constitué un comité ad hoc, destiné à présenter des recommandations portant sur la distribution des fonds ces cinq prochaines années, ainsi que sur la meilleure marche à suivre pour réaliser ces objectifs.

Sous la présidence du Dr W.G. McIntosh, le comité ad hoc est constitué par quatre dentistes, une hygiéniste dentaire et un représentant de l'industrie. Ce comité a déjà recueilli une quantité considérable de renseignements et s'est réuni une fois. Il envisage que son rapport sera prêt vers la mi-1981.

Vous vous souviendrez qu'en 1979, les dons en provenance de la profession dentaire ainsi que des compagnies ont battu tous les records.

Malheureusement en 1980, nous n'avons pas tout à fait atteint ces records, ni pour la profession, ni pour l'industrie, bien que le revenu total ait environ été le même pour les deux années, vu l'augmentation des placements et d'autres revenus divers.

Il est très encourageant de noter qu'il y a eu une hausse de 9%, portant à 275 le nombre de dentistes devenus membres d'honneur du Fonds en 1980 (donateurs de \$100 ou plus). En fait, 61 dentistes ont envoyé des contributions bien en excès de \$100.

Autre point encourageant pour 1980: les subventions accordées par le FCED ont fait l'objet d'une augmentation de \$7.300, soit de 6%. Voir plus bas une analyse détaillée des subventions accordées par le Fonds à la profession dentaire.

Je désire vous assurer que l'avancement des normes et du prestige de la profession, ainsi que l'amélioration des soins dentaires fournis au public, constituent en tout temps notre objectif.

Je me permets d'exprimer ma profonde reconnaissance à tous ceux qui ont contribué au FCED en 1980. Votre précieux appui nous est indispensable et nous espérons pouvoir compter sur vous en 1981.



James A. Guest, D.D.S.

1980 financial highlights

faits financiers marquants

income by source

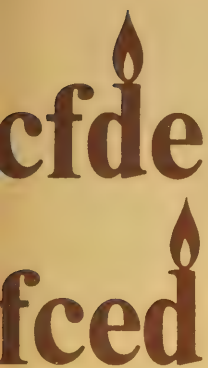
sources des revenus

Business and Industry Commerce et industrie	\$ 79,519	37%
Dental Profession Profession dentaire	\$ 68,292	32%
Investment and Sundry Income Revenus de placements et de sources diverses	\$ 51,013	24%
Dental Organizations Associations dentaires	\$ 14,380	7%
TOTAL	\$213,204	100%

dentistry has been enhanced by these grants

la médecine dentaire a pu faire de grands progrès grâce à ces subventions

Teacher Training Fellowships (Dentists and Dental Hygienists) Bourses de formation en enseignement (Dentistes et Hygiénistes dentaires)	\$ 57,423	45%
Grants to Dental Schools Subventions aux écoles dentaires	\$ 15,000	12%
Student Table Clinics and Conference Conférence et cliniques sur table des étudiants	\$ 11,701	9%
Lorne E. MacLachlan Endowment — Teacher Training Awards Dotation Lorne E. MacLachlan — Bourses pour la formation d'enseignants	\$ 9,625	8%
Biennial Dental Research Conference Conférence biennale de la recherche dentaire	\$ 8,500	7%
CDA Interview Validation Study Etude sur la valeur des entrevues de l'ADC	\$ 6,000	5%
Dental Teaching Conference Conférence sur l'enseignement dentaire	\$ 5,500	4%
Scholarships for Dental Students Bourses destinées aux étudiants dentaires	\$ 4,500	4%
Research Project — University of Toronto Projet de recherche — Université de Toronto	\$ 3,873	3%
Sundry Awards Octrois divers	\$ 4,168	3%
TOTAL	\$126,290	100%



CFDE's proud
record of help

1963 - 1980

l'imposant
inventaire
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It has been said that an organization entirely dependent upon voluntary support may determine its future potential in direct proportion to the soundness of the use it makes of the contributors' dollars.

L'on dit parfois qu'un organisme qui dépend totalement de fonds bénévoles peut déterminer son potentiel selon le degré de discernement avec lequel il dépense son argent.

Teacher Training Fellowships for Dentists Bourses de formation en enseignement pour les dentistes	\$ 621,055	46%
Unrestricted Grants to Dental Schools Subventions générales aux écoles dentaires	\$ 159,000	12%
Research, Teaching and Preventive Dentistry Conferences Conférences de la recherche, sur l'enseignement et de médecine dentaire préventive	\$ 132,338	10%
Dental Students' Conferences, Table Clinic Programs and Scholarships Conférences, cliniques sur table et bourses destinées aux étudiants dentaires	\$ 100,854	7%
Special Research Project at the University of Toronto (funded by a Hospital for Sick Children Foundation Grant) Projet de recherche à l'Université de Toronto (financé par une subvention de la Fondation de l'Hôpital pour les enfants malades)	\$ 93,250	7%
Teacher Training Fellowships, Scholarships, Workshops and Conferences for Dental Auxiliaries Bourses et subventions, ateliers et congrès pour les auxiliaires dentaires	\$ 78,409	6%
Graduate and Undergraduate Accreditation Surveys Enquêtes relatives à l'agrément des étudiants et des diplômés	\$ 74,000	5%
Lorne E. MacLachlan Endowment — Teacher Training Awards Dotation Lorne E. MacLachlan — Bourses pour la formation d'enseignants	\$ 44,270	3%
Dental Library Survey and Other ACFD Projects Etude relative aux bibliothèques dentaires et autres projets de l'AFDC	\$ 27,700	2%
Sundry Awards Octrois divers	\$ 27,034	2%
TOTAL	\$1,357,910	100%

Our records have been audited by Thorne Riddell.
A copy of their report is available on request.

La vérification de notre comptabilité a été effectuée par Thorne Riddell.
Une copie de leur compte-rendu financier sera envoyée sur demande.

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Although individual names are not listed, the Fund Trustees also wish to express their gratitude for the many smaller gifts received from various organizations.

Bien que les noms individuels ne soient pas cités, les responsables du Fonds désirent exprimer leur appréciation reconnaissante pour les nombreux dons plus modestes provenant de divers organismes.

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The Canadian Dental Association is therefore opposed to the principle of assignment of benefits and has so recommended to its membership.

With respect to opposing assignment, the dentist-patient relationship is conserved as one is not bound by the many clauses in the majority of contracts limiting the responsibility of the insurer as well as one does not have to be concerned about the financial solvency of the insurer.

A most recent example of the latter situation is the licence of the Company, Delta Dental and Co-operative Health Services being suspended by Ontario's superintendent of insurance. This health insurance firm provided dental and extended medical coverage plans basically to individual subscribers and large companies in

Ontario as well as to municipal employees in North York, Toronto and Ottawa.

The investigators found that the company's capital had shrunk rapidly from June of 1979 to June of 1980.

The money was supposed to be surplus — the amount insurers are required to have on hand over the amount they collect in premiums.

Frank Drea, the Ontario Minister of Consumer and Commercial Relations indicated that insurers are supposed to have \$1 in surplus for every \$4 they collect in premiums, but that Delta had used its surplus to pay claims and staff.

The amount the company owes in unpaid claims is not yet known.

To eliminate any problems which would result from situations of this nature the Canadian Dental Association recommends that the dental office should stamp "PLEASE PAY SUBSCRIBER" (in heavy type) right across the assignment section of the CDA Approved Standard Dental Claim Form.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on February 28, 1981:

<i>Common Stock Fund</i>	\$55.162
<i>Fixed Income Fund</i>	\$24.099
<i>Guaranteed Fund</i>	\$19.373
<i>Balanced Fund</i>	\$12.747

Total assets (market value) of the plan were \$34,555,107.

The previous month's figures, as of December 31., 1980, stood as fol-

lows:

<i>Common Stock Fund</i>	\$55.299
<i>Fixed Income Fund</i>	\$24.221
<i>Guaranteed Fund</i>	\$19.171
<i>Balanced Fund</i>	\$12.887

Total assets (market value) of the plan were \$33,875,234.

For further information write to: Canadian Dental Service Plans Inc., P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

Obituaries/ Nécrologies

PLOURDE, Gérard, de L'Islet, Québec, décédé le 18 janvier, 1981.

GODFREY, Richard Johnston, practised in Toronto. Died Dec. 21, 1980. Dr. Godfrey was professor emeritus at the University of Toronto, and a life member of the Canadian Dental Association, the Ontario Dental Association and the Toronto branch of the Academy of Dentistry. He was past president of the Royal College of Dental Surgeons of Ontario and the National Dental Examining Board of Canada. He also served as contributing editor of the Journal of Prosthetic Dentistry.

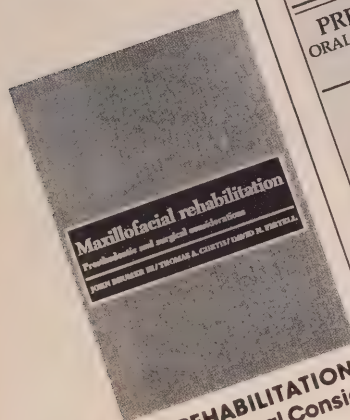
SMEATON, William Beam, of Niagara Falls, Ont., died Jan. 7, 1981. Dr. Smeaton practised in Niagara Falls from 1946 until his retirement five years ago. He was past president of the Niagara Peninsula Dental Association, and a member of the Niagara Falls Dental Society.

ALLEN, W., born 1894. Resided Prince Edward Island.

FULDAUER, Solomon Henri, born 1933. Died Jan. 18, 1981. Dr. Fuldauer graduated from McGill University in 1959 and was a member of the Vancouver & District Dental Society from that time.

SHEA, Margaret L., practised in Calgary, Edmonton, Hardisty and Castor. Died January, 1981. Graduated from the University of Pittsburgh, 1926.

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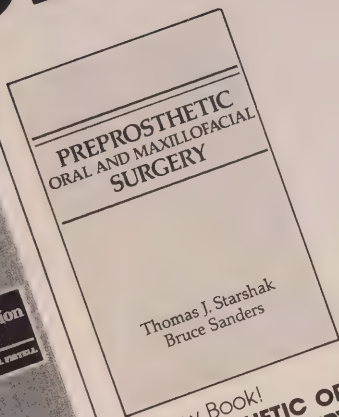
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- Implantable devices
- Correction of maxillomandibular deformities

Throughout, the authors emphasize that the surgeon and prosthodontist work as a team to fully meet patient needs. Order this comprehensive book today! August, 1980. Approx. 416 pages, 866 illustrations.

A New Book! HANDBOOK OF LOCAL ANESTHESIA

By Stanley F. Malamed, D.D.S.

This practical manual provides an in-depth look at local anesthesia as it is used in dentistry today. Four sections explore:

- "The drugs" — how they work, both as general classes and as specific agents
 - "The armamentarium" — details how to select and handle the proper equipment
 - "Techniques of regional anesthesia in dentistry" — featuring well-illustrated, step-by-step descriptions
 - "Complications and questions" — examines both local and systemic problems
- In the final chapter, Dr. Malamed answers those questions he is asked most during his lectures and courses. July, 1980. Approx. 240 pages, 286 illustrations.

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Charles A. Babbush

Surgical Atlas of Dental Implant Techniques

W.B. Saunders Co., Canada, Ltd.
326 pages \$58.50

Webster provides the following definition of an atlas: "A volume of plates or tables illustrative or explanatory of some subject." As much, this book is the most recent and intelligible effort at presenting the technology associated with various popular concepts of tooth replacement using implants. Yet, it has attempted to become a treatise on implants and has failed.

Dental implants have been a controversial subject, sometimes due to the same people who have the least experience in their use. Indeed, some oral surgeons are only too happy to point out that they have removed more implants than they have inserted. It is interesting to review a book on the subject written by an oral surgeon involved in the field for many years.

Technically, the atlas is well made. Illustrations, drawings and text are clear and easy to read. Procedures are reviewed step by step in such a clear and easy manner that the uninformed reader may be tempted to readily apply these techniques in his practice. But no word of caution is given to the potential implantologist on the complexity of an implant-oriented practice. Such a practice requires a rational approach providing a system of recall visits, frequent adjustments and practical solutions in cases of implant failure.

The book has many scientific drawbacks. Important research

studies are omitted for the more favorable ones. For instance, Schnitman and Shulman (J. Prosthet. Dent. 44:190, 1980) unquoted in the text, showed less favorable results with the vitreous carbon implants. A statement from the author that these implants are still in the experimental stage would have been beneficial. Likewise, the observations of Natiella (Oral Surg. 33:336, 1973) would have explained some of the failures with the blade-vent implant.

The excellent chapters on the subperiosteal and the staple bone implants are overshadowed by a full chapter on mucosal inserts, an old technique with very limited use which in many instances provokes papillary palatal hyperplasia. Irrelevant material is substituted for basic information. For example, in the selection of the patient, many pages are devoted to a battery of unnecessary medical tests and contraindications. But a discussion of the psychological assessment and appropriate tests such as the MMPI is absent.

"Surgical Atlas of Dental Implant Techniques" was reviewed by Paul Mercier, D.D.S., F.R.C.D. (C), director, Maxillary Atrophy Clinic, St. Mary's Hospital Center, Montréal, Quebec.

*Thomas J. Starshak
Bruce Sanders*

Preprosthetic Oral and Maxillofacial Surgery

C.V. Mosby Company
351 pages \$57.00

This is the second text by Thomas J. Starshak on the subject of Preprosthetic Surgery. It is an

updated work based on the original. The illustrations and reproductions are of an excellent quality and are clearly explained. The authors and the contributory authors are all men of clinical ability who present their subjects founded on time-tested fundamental principles, sound research and clinical data.

The book is written for practitioners interested in preprosthetic surgery. There is an excellent balance throughout the book between prosthodontic and surgical principles.

The text begins with a review of oral anatomy and physiology, followed by the cornerstone principles of prosthodontics and oral and maxillofacial surgery. It progresses logically with the simple 'bread and butter' surgical procedures which we all do, to the more difficult techniques which require a greater degree of surgical skill and training.

The authors' themes, one, that "if the anatomy of the oral tissues is not suitable for prosthodontics, it can be changed provided, the age, physical status and individual needs of the patient are met"; and two, "that all surgery should improve the form and function of the denture bearing areas so that it will enhance the potential for prosthetic rehabilitation", dominate the material presented in the text.

A vast amount of new material has been presented in this book including resource material from biological research, clinical data and personal communications based on new concepts of wound healing and resorption, bone and soft tissue grafting, orthognathic surgery and oral implantation.

The greatest clinical boon is the whole field of overdentures which if used to the full, may save many patients the aggravation of a wholly edentulous mouth and all its prosthetic problems.

I enjoyed reading this text and recommend it as a book worth purchasing, whether you do a little or a great deal in the field of preprosthetic surgery.

"Preprosthetic Oral and Maxillofacial Surgery" was reviewed by Dr. I.D.F. Schofield, University of Western Ontario.

Gerald D. Allen

Dental Anesthesia and Analgesia

2nd Edition
Williams & Wilkins
446 pages, \$37.95

Doctor Gerald D. Allen, an anesthesiologist and professor in anesthesiology and oral surgery at UCLA, leads six other contributors, including Dr. David Donaldson of UBC, in a well delivered text presenting a unified approach to dental anesthesia and the various analgesia modalities. The placement of local anesthesia, nitrous oxide analgesia and IV sedation on a continuum leading to a discussion of general anesthesia allows a steady development of basic science knowledge. This is a logical and effective manner to underline the importance of a thorough comprehension of the medical basics of all the anxiety or pain control modalities described. The facts and techniques discussed are selectively pertinent to dental needs while the overriding principles are those of an anesthesiologist-emphasizing anatomy, physiology, pharmacology, anesthesiology, toxicology and emergency management. These principles are presented clearly and thoroughly in a tone that can be understood by the practising oral surgeon,

general dentist, or undergraduate dental student.

Neglected in the first volume, this second edition has included three newly written chapters on local anesthesia. They are filled with timely updates often difficult to find in the literature — maximum allowable dosages based on weight, comparisons of the commonly used amides, the role of methyl paraben in allergies, the use of antihistamines as a last resort to the standard local anesthetics and true contra-intraductions to the use of epinephrine. The physiology of local anesthesia is well covered.

Local anesthetic techniques are well illustrated with large demonstrating photographs. The inferior alveolar block described incorporates a finger and thumb position on the anterior and posterior border of the vertical ramus to aid in gauging the anterior-posterior dimension and flare of the mandible — thus assisting the clinician in assessing the depth and angulation of needle penetration. This is a useful modification of the Halstead block. The intra-oral second division block through the greater palatine foramen is well illustrated. I am happy to see the Gow-Gates mandibular block included, although the anatomy of the areas medial and lateral to its target area is not dealt with adequately. Intrapapillary, intrapulpal and intraosseous infiltration techniques are all presented. The only possible omission is the useful closed-mouth (tuberosity) mandibular block of Acinosi. Overall, an excellent presentation on local anesthesia.

The excellent chapter on emergencies in anesthesia and analgesia reinforces the principles of patient safety and the underlying potential for hypoxia, hypercarbia, electrolyte imbalances, neurotoxicity and airway embarrassment addressed throughout the book.

Respiratory obstruction, laryngospasm, bronchospasm, pulmonary aspiration, syncope, hypotension, hypertension, cardiac arrhythmias, CHF, MI, CUA, malignant hyperthermia, and circulatory arrest are discussed cogently, providing the fundamentals of basic and advanced support and prevention.

The initial chapter on acupuncture and hypnosis and the final discussion of chronic pain seem presented for the sake of completeness and do not correlate well with the cohesive structure of the rest of the volume. The section on pre-operative preparation has a very basic presentation on physical examination and laboratory work-up. Reference to more specialized texts would be necessary for further detail. The bibliographies are current, although the section on nitrous oxide sedation would have been more up-to-date if exhaust control measures had been discussed.

A most worthwhile book for general dentist and oral surgeon alike, the back-to-basics approach of the authors is always relevant and well done. Every chapter contains a plethora of facts of interest to students and board examiners; yet is very readable, logically sequenced and cohesive. It is a worthy investment for anyone interested in acquiring a better grasp of a fundamental area of dentistry, for those general dentists interested in an update in local anesthesia, IV sedation and nitrous oxide analgesia and for those associated with general anesthesia in their practices. The book should, however, be of particular interest to oral surgeons, especially those who administer their own general anesthetics.

"Dental Anesthesia and Analgesia" was reviewed by Major Paul Levy, BSc, DDS, Senior Dental Officer, National Defence Headquarters, 1 Dental Unit, Ottawa, Ontario.

Calgary 1981



C.D.A. Convention Calgary, Alberta

August 30 to September 2

This is the week BEFORE Labour Day weekend so why not end your summer holidays at the C.D.A. Convention.

Come to Calgary, bring your family and enjoy our western hospitality. We promise to make this one of the more memorable conventions.

Calgary 81, means a fun night rodeo with barbequed beef and a dance; chuckwagon breakfast; spouses program; pre-convention arranged tours, excellent lectures, table clinics and over 100 exhibits.

Congrès de l'ADC Calgary, Alberta

30 Août au 2 Septembre

C'est la fin de semaine AVANT celle de la Fête du Travail. Alors terminez vos vacances d'été en prenant part au Congrès de l'ADC.

Venez visiter Calgary avec votre famille et profitez de l'hospitalité que vous réserve l'Ouest canadien. Nous vous promettons de faire de ce congrès l'un des plus mémorables de l'ADC.

Le Congrès de 1981 comprendra une soirée de plaisir, un rodéo avec dîner au boeuf, barbecue et danse, un déjeuner style "chuck wagon," des activités pour les épouses, des excursions avant le congrès, d'excellents exposés scientifiques, des conférences cliniques et plus de 100 kiosques d'exposition.

CANADIAN DENTAL ASSOCIATION DENTAIRE CANADIENNE

August 30 to
September 2, 1981
Calgary, Alberta

National Convention

Canadian Dental Association

Congrès National

Association dentaire canadienne

DENTISTS
Registering Prior to
July 1, 1981 - Complimentary
White Stetson Cowboy Hat

REGISTRATION FORM

PLEASE PRINT OR TYPE

Name _____

Address _____

Postal Code _____ Telephone Number _____

Receipt will be sent to the above. Please use separate forms if individual receipts are required. You may photocopy this form.

ROLE: Please indicate your principal role in CDA, CDHA, CDNAA, e.g., Member, President of Prosthodontic Section, Chairman of Council on Education, etc., after your name.

DENTISTS: Name (For name tag) _____ **ROLE** _____
CDA Member & Foreign Dentists \$175.00 before or \$200.00 after July 1, 1981
Canadian Non-CDA Member \$225. before or \$250. after July 1, 1981

\$ _____

INCLUDES: Scientific Sessions, Exhibits, Sunday opening ceremonies, Monday Morning Chuck Wagon Breakfast, Installation Luncheon, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance.

DENTAL HYGIENISTS: Name (For name tag) _____ **ROLE** _____
CDHA Member \$95.00 before or \$115.00 after July 1, 1981
Non-CDHA Member \$190.00 before or \$200.00 after July 1, 1981 (does not apply to Non-Canadian Hygienists who belong to their own Association)

\$ _____

INCLUDES: Scientific Sessions, Exhibits, two Luncheons and one Continental Breakfast, Bar-B-Que, Rodeo and Dance.

DENTAL TECHNICIANS: Name (For name tag) _____ **ROLE** _____
\$80.00

\$ _____

EXHIBITORS: Name (For name tag) _____

INCLUDES: Scientific Sessions, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance, White Stetson Hat.

DENTAL NURSES AND ASSISTANTS: Name (For name tag) _____ **ROLE** _____
CDNAA Member \$90.00 before \$100.00 after July 1, 1981.
Non-Member \$100.00 before or \$110.00 after July 1, 1981.

\$ _____

INCLUDES: Scientific Sessions, Exhibits, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast (optional for \$5.00) Monday Night Dinner Theatre, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance.

SPOUSES: (Other than dentists and auxiliaries) Name (For name tag) _____
\$75.00 before or \$90.00 after July 1, 1981.

\$ _____

INCLUDES: Scientific Sessions, Exhibits, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast, Fashion Show Luncheon, Tuesday Luncheon and Sightseeing Tours and evening Bar-B-Que, Rodeo and Dancing.

Monday night President's Dinner and Dance \$45.00 per couple

\$ _____

Tuesday night Bar-B-Que, Rodeo and Dance, additional
admission tickets — \$30.00 each

\$ _____

CANCELLATION: Full registration fee refundable up to July 1, 1981.
75 per cent refundable after that date.

TOTAL \$ _____

MAIL TO: DR. JACK A. DERBYSHIRE, Registration and Accommodation Chairman
496 - Palliser Square East, 115 - 9th Avenue S.E.
Calgary, Alberta, T2G 0P5 — Phone: 1-(403) 261-5877.

du 30 août au
2 septembre 1981
Calgary (Alberta)

National Convention

Canadian Dental Association

Congrès National

Association dentaire canadienne

DENTISTES

Inscrivez-vous avant le 1^{er} juillet
1981 et recevez gratis un chapeau
de cowboy de marque Stetson

FORMULAIRE D'INSCRIPTION

(ÉCRIRE EN LETTRES MOULÉES OU À LA MACHINE)

Nom _____

Adresse _____

Code postal _____ Numéro de téléphone _____

Un reçu global sera envoyé à l'adresse ci-dessus, à moins que vous ne préfériez des reçus individuels (en ce cas, reproduisez le présent formulaire et envoyez autant d'inscriptions qu'il le faut).

FONCTION: A la suite de votre nom, indiquez votre fonction principale au sein de l'ADC, de l'ACHD ou de l'ACGMAD (exemples: membre, président de la Division de prosthodontie, président du Conseil de l'éducation, etc.).

DENTISTES: Nom (à inscrire sur votre insigne) _____ **FONCTION:** _____
Membres de l'ADC et dentistes étrangers: 175 \$ avant le 1^{er} juillet 1981, ou 200 \$ après.
Canadiens non membres: 225 \$ avant le 1^{er} juillet 1981, ou 250 \$ après. \$ _____

Privilegès: Séances de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et déjeuner "Installation" le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi.

HYGIÉNISTES DENTAIREs: Nom (à inscrire sur e'insigne) _____ **FONCTION:** _____
Membres de l'ACHD: 95 \$ avant le 1^{er} juillet 1981, ou 115 \$ après.
Non membres: 190 \$ avant le 1^{er} juillet 1981, ou 200 \$ après (ne concerne pas les hygiénistes étrangers qui ont leur propre association). \$ _____

Privilegès: Séances de travail, exposition, un petit déjeuner continental et deux déjeûners, un dîner-barbecue, rodéo et danse.

TECHNICIENS DENTAIREs: Nom (à inscrire sur e'insigne) _____ **FONCTION:** _____
80 \$ \$ _____

EXPOSANTS: Nom (à inscrire sur l'insigne) _____ \$ _____

Privilegès: Séances de travail; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi; chapeau de cowboy Stetson.

GARDE-MALADES ET ASSISTANTS(ES) DENTAIREs: Nom (à inscrire sur l'insigne) _____ **FONCTION:** _____
Membres de l'ACGMAD: 90 \$ avant le 1^{er} juillet 1981, ou 100 \$ après.
Non membres: 100 \$ avant le 1^{er} juillet 1981, ou 110 \$ après. \$ _____

Privilegès: Sessions de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et, moyennant 5 \$ supplémentaires, dîner-théâtre en soirée le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi.

CONJOINTS: (autres que dentistes et assistants) Nom (à inscrire sur l'insigne) _____
75 \$ avant le 1^{er} juillet 1981, ou 90 \$ après. \$ _____

Privilegès: Scéances de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et déjeuner-parade de mode le lundi; déjeuner, visite organisée, dîner-barbecue, rodéo et danse le mardi.

Lundi, en soirée, dîner et bal du président: 45 \$ le couple. \$ _____

Mardi, en soirée, dîner-barbecue, rodéo et danse: billets supplémentaires, 30 \$ chacun. \$ _____

ANNULATIONS: Remboursement entier des frais d'inscription, avant le 1^{er} juillet 1981; après quoi, il y aura une retenue de 75%.

ADRESSE: Dr JACK A. DERBYSHIRE, président (Inscription et Hébergement)
496 - Palliser Square East, 115 - 9th Avenue S.E.
Calgary, Alberta, T2G 0P5 - Telephone: 1 (403) 261-5877.

TOTAL

\$ _____

August 30 to
September 2, 1981
Calgary, Alberta

National Convention

Canadian Dental Association

Congrès National

Association dentaire canadienne

du 30 août au
2 septembre 1981
Calgary (Alberta)

HOTEL RESERVATION FORM FORMULAIRE DE RÉSERVATION DE CHAMBRE D'HOTEL

PLEASE PRINT — LETTRES MOULÉES, S.V.P.

Name — Nom _____

Address — Adresse _____

Tel. No. — N° de tél. _____

No. of Adults _____ Children _____ in room.

Nombres d'adultes _____ d'enfants _____ par chambre.

Dentist	☐	Dentiste	☐
Hygienist	☐	Hygiéniste	☐
Assistant	☐	Assistant(e)	☐
Technician	☐	Technicien(ne)	☐
Exhibitor	☐	Exposant	☐

HOTEL List 5 Hotels in order of Preference
HÔTEL Indiquer 5 hôtels par ordre de préférence

Single ☐ Twin ☐
Simple ☐ Jumeaux ☐ Double ☐ Triple ☐

- _____
- _____
- _____
- _____
- _____

Do you wish your reservation guaranteed? Yes _____ No _____ Unless guaranteed, reservation will only be held until 6 p.m. Room allocation will be made only to convention registrants. Advance payment will be required upon receipt of confirmation. Do not enclose accommodation payment with this form. Do not include accommodation payment in registration cheque.

Désirez-vous garantir votre réservation? Qui _____; Non _____. Cette protection permettra à l'hôtel de vous garder une chambre après 18 heures. Les chambres seront attribuées seulement à ceux qui se seront inscrits au congrès. Vous devrez cependant verser un acomptes vos frais d'hébergement dès que l'hôtel aura confirmé votre réservation. Vous n'avez donc pas à payer ces frais immédiatement ni à en joindre le paiement à celui des frais d'inscription.

Date arriving — Date d'arrivée _____ AM _____ PM _____ Mode of Travel _____

Date departing — Date de départ _____ AM _____ PM _____ Mode de Transport _____

	Simple	Double	Triple	Code
1. ‡Four Seasons Hotel	\$70.00	\$84.00	—	
2. The Palliser (CP)	\$55.00	\$65.00	—	+ reserved for dental assistants
3. Calgary Inn	\$72.00	\$87.00	—	@reserved for dental hygienists
4. The International	\$63.00	76.00	—	‡Convention Centre
5. Holiday Inn	\$51.00	\$57.00	—	
6. Westward Inn	45.00	\$52.00	—	+ réserve aux assistants dentaires
7. + Bow Valley Inn	\$68.00	\$75.00	\$82.00	@réserve aux hygiénistes dentaires
8. @Sandman Inn	\$48.00	\$54.00	\$59.00	‡Lieux du congrès

DEADLINE FOR MAKING ADVANCE RESERVATIONS: July 1, 1981
DATE LIMITE POUR LES RÉSERVATIONS ANTICIPÉES: le 1^{er} juillet 1981

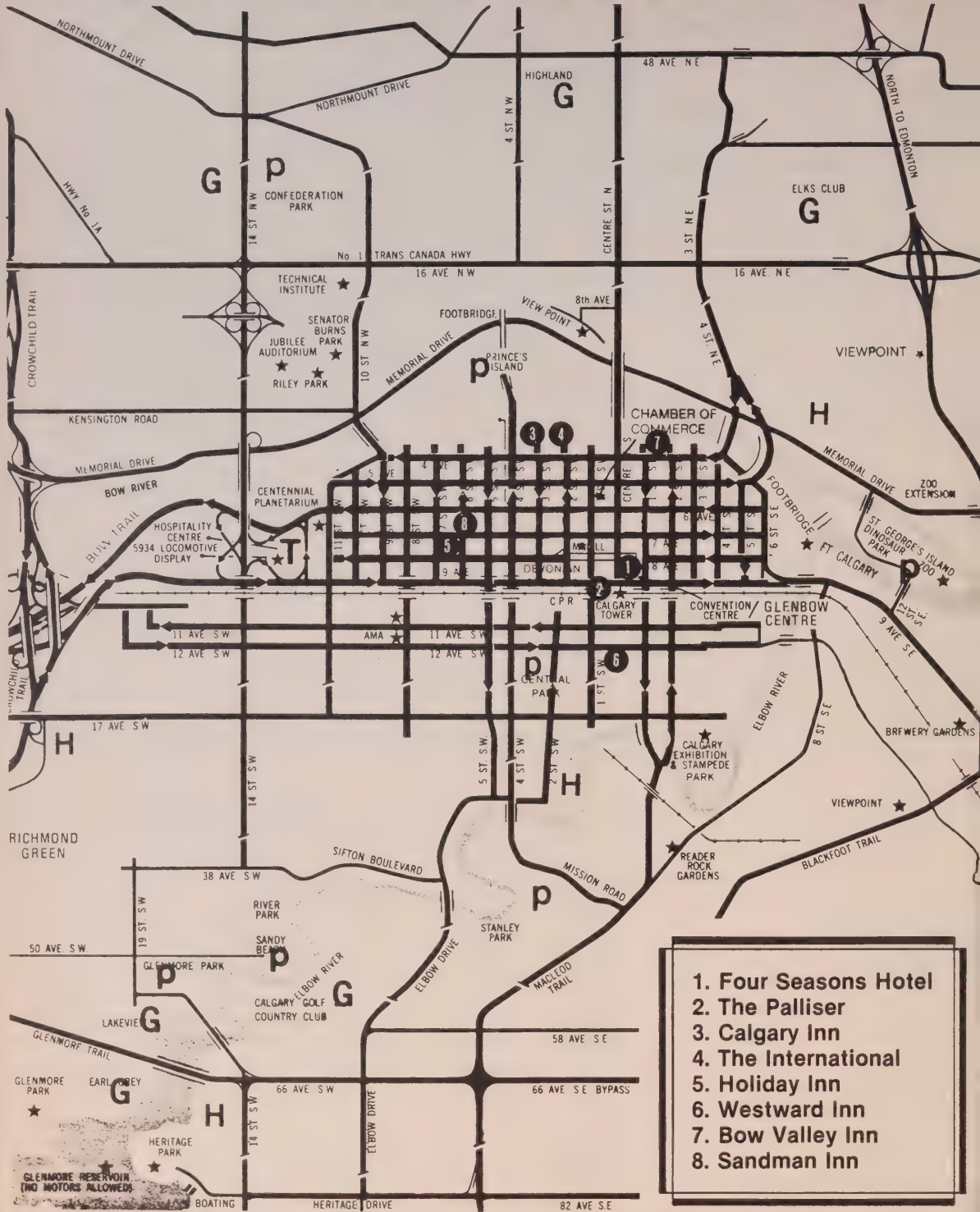
Return this reservation form to the registration chairman:
Retourner le présent formulaire au secrétariat du congrès:

Hotel Accommodations must
be made through Registration Chairman

Les dispositions d'hébergement doivent être
prises auprès du président du comité d'inscription

Dr. Jack A. Derbyshire
#496 — Palliser Square East
115 - 9th Avenue S.E.
Calgary, Alberta, T2G 0P5

CDA '81 CALGARY MAP



1. Four Seasons Hotel
2. The Palliser
3. Calgary Inn
4. The International
5. Holiday Inn
6. Westward Inn
7. Bow Valley Inn
8. Sandman Inn

Calgary offers great variety of activities

"Just a little bit country" — that's Calgary, site of the 1981 CDA convention.

Calgary is situated in the foothills of southern Alberta, 70 miles from the heart of the Rocky Mountains, and is a dynamic businesslike city.

The Glenbow Museum and Art Gallery is located in the Convention Center and is the largest cultural facility of its kind in Western Canada. It contains 280,000 square feet of space, of which 100,000 is devoted to a museum, art exhibits and gardens.

One block west is the Calgary Tower where you can take the guided tour elevator to the top for a panoramic view of the city. The Tower's rotating restaurant offers superb dining with a view of the white-capped Rockies, capturing the horizon on every turn.

Within an hour's drive east of Calgary, two billion years of earth's history is revealed. The Drumheller area was once the ocean-delta home of

dinosaurs. Today it is a vast "badlands" region, laced with coal and guarded by strange geological formations known as the "hoodoos". Deluxe motor coaches with public address systems are available for charter.

Banff, world-renowned as one of the most beautiful mountain resorts, is located 80 miles west of Calgary.

Banff is the hub of Banff National Park, and the tranquility and majesty of the mountains provide an idyllic setting for pre- or post-convention relaxation or recreation. In the summer tourists can enjoy hiking, fishing, trail riding and climbing. Natural hot mineral springs pools and cable car rides onto the high peaks are also available.

The emerald beauty of Lake Louise is not far from Banff. It is one of the world's truly picturesque and breathtaking scenes.

Jasper lies 180 miles north of Banff via one of the most scenic highways on the continent, and is tucked snugly in the valley of the Athabasca River. The Columbia Ice Fields, a geological phenomenon, are located between Banff and Jasper and snowmobile rides are available for tours of the glacial formations from the last Ice Age.

Spending time in the mountains will necessitate a warm sweater or jacket but otherwise lightweight summer clothes are in order. Southern Alberta is generally dry and sunny with some very hot days and cold nights.

Calgary offers excellent dining, ranging from elegant continental to intimate ethnic restaurants; theatre, concerts, symphonies, art galleries, museums, parks, cabarets, professional sports, and a rich blend of cultural and technological sophistication.

Table clinics

Applicants for table clinics to be presented at the Canadian Dental Association Convention in Calgary, August 30 — September 2, 1981, are asked to contact Dr. Ellis Stonehocker at 202, 506 — 71 Avenue S.W., Calgary, Alberta T2V 4V4, Phone (403) 259-3401, with a topic and prospectus of presentation.

Deadline for submissions is June 30, 1981.

CDA NATIONAL CONVENTION CONGRÈS NATIONAL DE L'ADC

Calgary, Alberta — August/Août 30 - Sept. 2

Registration and hotel reservation forms are included in this issue.

Vous trouverez dans ce numéro une formule d'inscription et de réservation d'hôtel.



Dr. Randy Headley

**INSCRIVEZ-VOUS
MAINTENANT**

**REGISTER
NOW**

Calgary, centre d'une région riche en merveilles naturelles

"Une légère saveur rustique," — voilà qui peut décrire assez bien le caractère de Calgary, lieu où l'ADC tiendra son congrès cette année.

La ville de Calgary est sise aux pieds des basses montagnes du sud-est de l'Alberta, à quelque 110 kilomètres du coeur des Rocheuses. Elle se distingue par son dynamisme et son esprit pratique.

Le Musée et la Galerie d'art Glenbow font partie du Centre des congrès et c'est le plus grand complexe culturel du genre dans l'Ouest canadien. Il offre une superficie de 280 000 pieds carrés dont 100 000 sont réservés au musée, aux expositions artistiques et aux jardins.

Un pâté plus à l'ouest se trouve la Tour de Calgary au sommet de laquelle on découvre une vue panoramique sur la ville et ses environs. Son restaurant rotatif offre une excellente cuisine que le gourmet peut savourer en admirant les pics enneigés des Rocheuses qui barrent l'horizon à l'ouest.

À moins d'une heure de voiture à l'est de Calgary, deux billions d'années d'histoire de la Terre sont révélées au voyageur. En effet, dans la région de Drumheller se trouvaient, dans des temps préhistoriques, un

71 Avenue S.W., Calgary (Alberta) T2V 4V4; téléphone: (403) 259-3401. À leur demande doivent être joints le sujet et le plan de leur exposé. Le 30 juin 1981 est la date limite pour présenter les soumissions.

océan et un delta où vivaient des dinosaures. Aujourd'hui, c'est une vaste étendue qui surprend par son étrangeté, ses nappes de charbon et ses curieuses formations géologiques qu'on nomme assez joliment "pyramides de fées." Il est possible d'y effectuer une visite guidée en autocar moderne.

Banff, que le monde entier reconnaît comme l'un des plus beaux lieux de séjour en montagne, se trouve à environ 130 kilomètres à l'ouest de Calgary.

Quant au Parc national de Banff avec ses montagnes sereines et majestueuses, il offre un décor idéal à ceux qui désireront se reposer ou se divertir avant ou après le congrès. Durant l'été, le touriste peut y faire des excursions à pied, des promenades à cheval, de l'alpinisme et de la pêche. Il peut également se baigner dans des piscines thermales ou se rendre sur les sommets des montagnes par funiculaire.

Non loin de Banff, le voyageur émerveillé admire le décor incomparable du lac Louise et ses eaux couleur émeraude. Célèbre dans le monde entier, ce site est d'une magnificence qui défie toute description.

Après avoir parcouru sur quelque 300 kilomètres vers le nord une des autoroutes les plus spectaculaires de l'Amérique, le voyageur découvre Jasper, petite ville heureuse logée confortablement dans la vallée de l'Athabasca. La mer de glace Columbia, située entre Banff et Jasper, constitue un phénomène géologique étonnant.

Des excursions en autoneige font voir au voyageur impressionné des glaces datant de la dernière période glaciaire.

Il est nécessaire d'apporter des vêtements chauds pour les séjours en montagne, sinon des vêtements légers suffisent. Le Sud de l'Alberta est généralement sec et ensoleillé, avec des journées très chaudes et des nuits plutôt fraîches.

Calgary possède de bons restaurants qui offrent les cuisines continentale et étrangères dans des décors élégants ou intimes, suivant les goûts de chacun. Il y a aussi des théâtres, des salles de concert, des galeries d'art, des musées, des parcs et des cabarets. Le sportif y est choyé, l'amateur d'art y est bien servi et celui qui s'intéresse aux sciences n'est certes pas déçu.

Bourses

Le 31 juillet est la date limite pour soumettre des demandes de bourse et de fonds de contribution au Programme national de recherche et de développement en matière de santé.

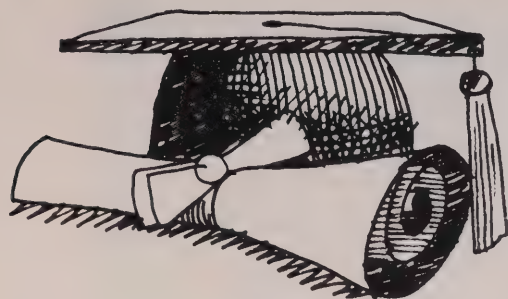
Il est également possible d'obtenir de l'aide pour les projets de formules, les conférences, les colloques, les ateliers et les prix.

On peut se procurer le Guide de subvention et de contribution pour les projets et des formulaires de demande en s'adressant à la Direction des programmes de recherches extra-muros, Direction générale des services et de la promotion de la santé, Ministère de la Santé nationale et du Bien-être social, Ottawa(Ontario) K1A 1B4.

Table ronde

Ceux qui désirent participer aux cliniques en table ronde qui se tiendront au Congrès de l'Association dentaire canadienne à Calgary, du 30 août au 2 septembre, sont priés d'écrire au Dr Ellis Stonehocker au 202-506.

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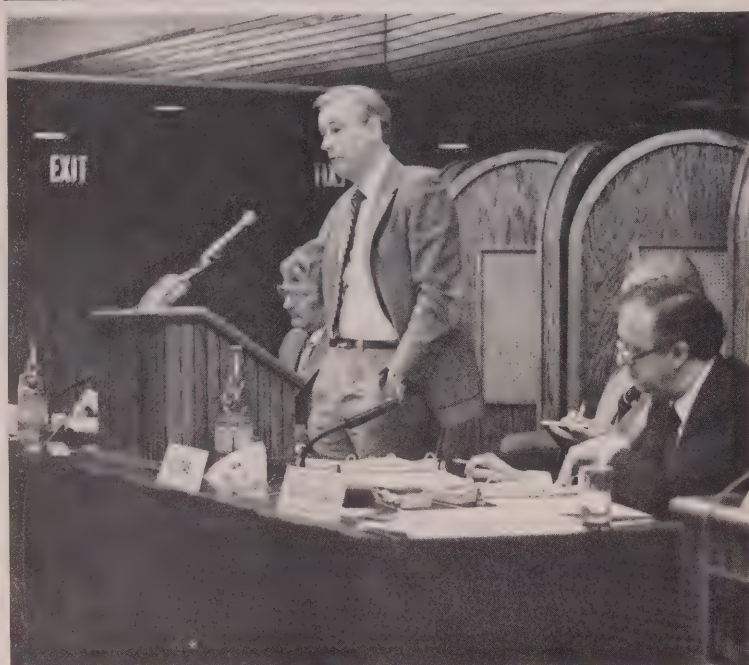
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Board of Governors

Interim Board meets in Ottawa



CDA President Dr. Gil Utas (left) and President Elect Dr. Donald Williams (far right) take notes during the speech of Health and Welfare Deputy Minister Lawrence Fry. Mr. Fry was speaking at the Interim Board of Governors meeting held in Ottawa March 6 and 7.

"The CDA now, more than ever before, must continue to grow — to expand its sphere of influence and exemplify a solid leadership that will maintain dentistry as a profession of which we can all be justifiably proud."

With these words Dr. Gil Utas, CDA president, opened the Interim Board of Governors Meeting held in Ottawa March 6 and 7.

He said that members of certain provinces had expressed concern about the viability of CDA in light of the fee increase, nonetheless overwhelming votes of confidence were expressed by these specific provinces.

In both Newfoundland and Manitoba where Dr. Utas spoke to the annual meetings, increases in the membership fee of those provinces were accepted by a healthy majority.

"Their pledge of continued support and co-operation is very en-

couraging."

However, he cautioned that these results should not convince CDA to rest on its own laurels.

The onus is on the present membership to continue to contribute to the evolution of the profession.

Dr. Utas said government relations are of the utmost importance, and this was clearly demonstrated during the two-day workshop on priorities held at Montebello last month.

"The mood was not only positive in terms of the workshop and in the overall attitude that CDA is advancing constructively in many areas, but with the knowledge there is a great deal more to do," Dr. Utas said.

He said the membership has instructed CDA to "strive to attain worthy goals. Through positive and constructive dialogue and in a true

spirit of co-operation, we can accomplish at least a step at a time."

Members of the Canadian Dental Association Board of Governors convened for a two-day meeting in Ottawa, March 6 and 7. Dr. Nick Mancini, chairman of the Board, officiated. Highlights follow.

FDI

Lengthy discussion preceded the acceptance of a motion that CDA's withdrawal from FDI, as approved by the Board last September, be rescinded.

Dr. Gil Utas, CDA president, emphasized that the withdrawal was initiated last year when FDI refused to acknowledge CDA's concerns about fee structure, policies and operations. An immediate response was received from FDI and Dr. J.E. Ahlberg, executive director of FDI, met with the CDA Management Committee November 14.

At that time, FDI agreed to consider revisions to its fee structure and positive solutions in other areas were reached, Dr. Utas said.

Delegates to the 1981 Congress in Rio de Janeiro will be Dr. Utas and Dr. Donald Williams, current CDA president elect who will then be president of the Canadian Dental Association.

TAXATION COMMITTEE

Presenting the Taxation Committee report, Dr. Robert Hicks, committee chairman, outlined activities relative to duties on dental materials.

Dr. Hicks informed the Board that Bill C-50, which will alter tariffs on many items, was of key concern to dentists.

He urged Board members to write letters to their members of Parliament while at the CDA Board meeting, and CDA staff delivered the letters directly to Parliament Hill March 9.

The Board agreed that the Canadian Dental Association support tariff protection for the dental laboratory industry and work with the Commercial Dental Laboratory Conference to separate the tariff treatment of dental prosthetic appliances from the tariff treatment of dental materials.

In the RRSP arena, the Board suggested CDA set up a meeting with the Canadian Medical Association, the Canadian Institute of Chartered Accountants and the Canadian Bar Association to explore alternative avenues for Canadian professionals to contribute to pension funds or retirement savings programs with pre-tax dollars.

CONVENTIONS

A proposal on the convention committee structure and convention protocol was referred to an ad hoc committee that will be established in the near future. A full convention protocol report will be presented in time for the Calgary Annual Meeting of the Canadian Dental Association, August 30 to September 2 this year.

Dr. John Christie co-chairman of the 1980 Convention Organizing Committee presented CDA with a cheque for more than \$11,000 representing proceeds from the Halifax convention.

FINANCIAL STATEMENT

The Financial Statement of the Canadian Dental Association for the year ending December 31, 1980 was accepted. The balance sheet will be published in an up-coming issue of the Journal.

MEMBERSHIP

Dr. Clyde Covit, membership chairman, reported that in 1980 64 per cent of licensed dentists in Ontario belonged to CDA and 58 per cent of licensed dentists in Quebec were members.

The Board approved Life memberships in CDA for Dr. Robert Brown, Ontario; Dr. George Covey, Ontario; Dr. Frank Smith, B.C.; Dr. R.B. Campbell, Alberta; Dr. A. Lapin, Quebec; Dr. Zack Kasloff, United States; Dr. Gordon Beesley, Saskatchewan; and Dr. Alan Daysmith, Alberta.

Association memberships were granted to Dr. S. Monzingo, Dr. S.J. Dixon, Dr. P.D. Lamantia, Dr. L.G. Hutchison, Dr. B. Denyar, Dr. J.D. Awde, Dr. G. Lovas, Dr. Ian Watson and Dr. Hermina Richter.

Certificates of Merit were approved for 1979 for Dr. M. Charendoff, Dr. C. Dexter, Dr. W.J. Froese, Dr. C.D. Mielke, Dr. J.D. Murphy and Dr. A.J. Shinoff. For 1980, Dr. C.E. Goselin.

FLUORIDATION REPORT

A general policy statement and an analysis of the current status of fluoridation in Canada were contained in the February and March issues of the Journal. Describing it as "a big step forward," Dr. Gil Utas noted that the Canadian Medical Association has

agreed to endorse CDA's position.

Two manuals have been prepared for local and provincial use in fluoridation campaigns.

The policy statement reaffirms CDA's position in favor of community water fluoridation. Copies are available from the Canadian Dental Association.

ALTERNATE DELIVERY SYSTEMS

A subcommittee on dental care systems held its first meeting February 13, 1981 and will continue to study capitation, retail dentistry and other alternate delivery systems.

RESOURCE CENTRE

Linda Teteruck has been appointed director of Education, and will be responsible for the development of a resource centre at CDA headquarters. Ms. Teteruck will continue her present duties as director of Student Affairs and will also act as co-ordinator of CDA conferences and continuing education. (See page 210 of this issue.)



During the CDA interim board of governors meeting, members vote on an important motion. The meeting was held in Ottawa March 6 and 7.

Board of Governors

STUDENT AFFAIRS

A report on the evaluation of student programs was referred to the Council on Student Affairs for review and implementation subject to Board approval in September, 1981.

The CDA Council on Insurance and Investments was asked to consider recommendations concerning CDSPI as voiced by the Council on Student Affairs. The council requests that CDSPI clarify its relationship with CDA; clarify insurance competition and, where possible, include a dentist at CDSPI presentations to dental students.

The Board ruled that CDA's participation at American Dental Students Association meetings be reviewed annually.

INFORMATION SERVICES

The Board approved implementation of a newsletter to be issued on a regular basis to summarize ongoing business of CDA councils and ongoing business of CDA, to be distributed to all council members and office bearers of the Association.

The preparation of a feasibility report on the formation of a bureau of CDA-accredited speakers to disseminate information about key topics and official CDA policy on current areas of importance was approved.

HEALTH CARE

Guidelines on School Dental Accident Insurance were approved, but distribution of these guidelines will be delayed pending amendments to the section on payment limits, to be determined by the Council on Health Care.

MERCURY CONTAMINATION

The Board supported the Executive Council decision to initiate a study on mercury contamination in the Maritimes, for which \$2,000 has been

made available (see CDA Journal, January, 1981).

HOSPITAL SERVICES

It was agreed that the Council on Hospital Services actively seek membership in the Canadian Council on Hospital Accreditation, and that a meeting between the Canadian Dental Association and CCHA be convened to discuss this membership.

MANPOWER SURVEY

The Board was informed that a preliminary meeting to explore the feasibility of a Manpower Survey was held just prior to the Board. Attendees included the Management Committee, the chairman of Health Care Dr. R.J. Sexton, two Public Health Dentists, Dr. Donald Lewis, University of Toronto and Dr. John Stamm, McGill University and two economists, Dr. Ron House and Mr. Kent Nash, ADA.

NEW BUSINESS

An ad hoc committee will be established to conduct a feasibility study to determine the structure and mandate of a new entity within CDA whose primary concern would be in the interests of the public. Such a committee would consist of representatives from licensing bodies together with an equal number of representatives from CDA and would report their recommendation to the next Board of Governors Meeting at the end of August.

Deadline set

The deadline for submission of applications for grants and contribution funding from the National Health Research and Development Program is the end of July, 1981.

Support is also available for formulation proposals, conferences, symposia, workshops, fellowships and awards.

The Grants and Contributions Guide for Projects and application forms are available from the Extramural Research Programs Directorate, Health Services and Promotion Branch, Department of National Health and Welfare, Ottawa, Ont. K1A 1B4.

Group formed

A subcommittee to monitor alternate delivery systems has been formed by the Canadian Dental Association.

The group will be known as the Subcommittee on Dental Care Systems, and will have six members, including one from the Council on Health Care who will serve as chairman.

The subcommittee will study, evaluate and make available information on the planning, administration, delivery and funding of dental care systems; develop guidelines, and assist corporate members and other dental organizations on matters relating to the four topics.

Two meetings of the group are planned for 1981.

Appointment

Dr. D.W. Banting, associate professor and chairman, division of community dentistry at the University of Western Ontario has been appointed to a newly formed dental working group.

The Working Group on Oral Health Surveys was formed in 1979 and will review previous Canadian surveys on oral health, make recommendations for further surveys and submit a report.

Other members of the group are: Dr. Murray Hunt, Toronto; Dr. Don Lewis, Toronto; Dr. John Stamm, Montreal; and Dr. Allan Gray, Victoria.

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Conseil d'administration

Rapport du Conseil d'administration



Avant que ne débute l'assemblée du mois dernier, le président de l'ADC, le Dr Gil Utas (à gauche), s'entretient avec M. Lawrence Fry, ministre adjoint de Santé et Bien-être social, au sujet de certaines questions dentaires.

“Maintenant plus que jamais, l'ADC doit continuer de grandir, – d'étendre le champ de son action et de donner l'exemple d'une puissante direction qui continuera à faire de la dentisterie une profession dont à juste titre nous pouvons être fiers.”

Ce fut avec ces mots que le président de l'ADC, le Dr Gil Utas, a ouvert l'assemblée intérimaire du Conseil d'administration qui s'est tenue à Ottawa les 6 et 7 mars derniers.

Les membres de certaines provinces, a-t-il dit, se sont demandé avec inquiétude si l'ADC survivrait suite à l'augmentation des frais de cotisation. Ces mêmes provinces ont néanmoins exprimé un vote de confiance qui dénote un enthousiasme réel.

À Terre-Neuve et au Manitoba, où le Dr Utas a prononcé des discours à chaque assemblée annuelle des deux associations dentaires, une saine majorité a accepté l'augmentation des frais de cotisation.

“Il est très encourageant de constater que les membres de ces provinces ont promis de continuer à nous fournir leur appui et leur collaboration,” a déclaré le président.

Toutefois, a-t-il poursuivi, l'ADC doit se garder de voir dans ces résultats une invitation à se reposer sur ses lauriers. De fait, l'ensemble des membres actuels a comme devoir de continuer à contribuer au progrès de la profession.

Par ailleurs, a observé le Dr Utas, les relations avec le gouvernement sont de prime importance, ainsi que l'a clairement démontré l'atelier de deux jours qui portait sur les priorités et qui s'est tenu à Montebello le mois dernier.

“La disposition des participants, a-t-il noté, était bonne non seulement à cause de l'atelier et de la conviction générale touchant les réels progrès réalisés par l'ADC dans plusieurs domaines, mais aussi à cause du fait reconnu qu'il y a encore beaucoup à faire.”

En terminant, le Dr Utas a remarqué que le recrutement des membres a appris à l'Association qu'elle doit “travailler pour atteindre des buts qui sont valables.” Et il a ajouté: “Grâce à un dialogue positif et constructif, grâce aussi à un réel esprit de collaboration, nous pouvons faire au moins un pas à la fois.”

Les administrateurs de l'Association dentaire canadienne se sont réunis à Ottawa les 6 et 7 mars derniers. Le Dr Nick Mancini a rempli ses fonctions de président du Conseil d'administration. Nous présentons ici un résumé des principaux sujets discutés.

FDI

Après une longue discussion, la décision prise par l'ADC de se retirer de la FDI, telle qu'elle avait été approuvée par le Conseil en septembre dernier, a été révoquée.

Le président de l'ADC, le Dr Gil Utas, a expliqué que ce retrait avait été amorcé l'an dernier parce que la FDI avait refusé de reconnaître les revendications de l'ADC au sujet de la répartition des frais de cotisation, des politiques et des opérations.

La FDI avait aussitôt répondu à l'ADC et le Dr J.E. Ahlberg, directeur exécutif de la FDI, avait rencontré le Comité de gestion le 14 novembre 1980.

À cette époque, la FDI a consenti à réviser la répartition des frais de cotisation et les autres problèmes ont été résolus de façon satisfaisante.

Les représentants de l'ADC au Congrès de la FDI qui se tiendra à Rio de Janeiro cette année, seront les Drs Utas et Williams. Celui-ci est l'actuel président-élu de l'ADC mais, au moment du congrès, il aura succédé au Dr Utas.

COMITÉ DES QUESTIONS FISCALES

En présentant le rapport de ce comité, le Dr Robert Hicks, président, a exposé brièvement les démarches entreprises au sujet des taxes douanières sur les matériaux importés.

Le Dr Hicks a déclaré au Conseil que le bill C-50, qui doit modifier les tarifs sur plusieurs articles, était très important pour les dentistes.

Il a exhorté les administrateurs à écrire à leurs députés respectifs pendant l'assemblée, et les lettres de ces derniers ont été livrées au Parlement le lundi 9 mars.

Le Conseil a consenti à ce que l'Association dentaire canadienne appuie la défense des tarifs pour les laboratoires dentaires commerciaux et participe à la Conférence des laboratoires commerciaux afin que les tarifs touchant les prothèses dentaires soient considérés différemment des tarifs touchant les matériaux dentaires.

Au sujet des R.E.E.R., le Conseil a suggéré à l'ADC d'organiser une rencontre avec l'Association médicale canadienne, l'Institut canadien des comptables agréés et l'Association du barreau canadien afin d'examiner qu'elles solutions de rechange s'offrent aux professionnels canadiens qui désirent contribuer à un fonds de pension ou à un régime d'épargne-retraite pour alléger leurs impôts.

COMITÉ DES CONGRÈS

Une proposition touchant la structure du Comité des congrès et le protocole des congrès a été renvoyée au comité ad hoc qui sera formé prochainement. Un rapport complet sur le protocole des congrès sera présenté à temps pour l'assemblée annuelle de l'Association dentaire canadienne, à Calgary, du 30 août au 2 septembre prochains.

Le Dr John Christie, co-président du Comité organisateur du Congrès 1980, a présenté à l'ADC un chèque de plus de 11 000\$, ce qui représente les produits du Congrès d'Halifax.

BILAN

Le bilan de l'Association dentaire canadienne pour l'exercice se terminant le 31 décembre 1980 a été accepté. Le bilan sommaire sera publié dans un prochain numéro du Journal.

COMITÉ DE RECRUTEMENT

Le président de ce comité, le Dr Clyde Covit, a rapporté qu'en 1980, 64 pour cent des dentistes diplômés de l'Ontario et 64 pour cent des dentistes diplômés du Québec étaient membres de l'ADC.

Le Conseil a approuvé que soient nommés membres à vie de l'ADC les Drs Robert Brown et George Covey, de l'Ontario; le Dr Frank Smith, de la Colombie-Britannique; le Dr A. Lapin, de Québec; le Dr Zack Kasloff, des États-Unis; le Dr Gordon Beesley, du Saskatchewan; et les Dr Alan Day-Smith et R.B. Campbell, de l'Alberta.

Ont été nommés membres d'honneur de l'ADC les Drs S. Monzingo, S.J. Dixon, P.D. Lamantia, L.G. Butchison, B. Denyar, J.D. Awde, G. Lovas, Ian Watson et Hermina Richter.

Des certificats de mérite ont été décernés aux Drs M. Charendoff, C. Dexter, W.J. Froese, C.D. Mielke, J.D. Murphy et A.J. Shinoff, pour l'année 1979, et au Dr C.E. Gosselin, pour l'année 1980.

RAPPORT SUR LA FLUORATION

Les numéros de février et mars du Journal contiennent une déclaration de principe générale et une analyse de l'état actuel de la fluoration au Canada. Le Dr Gil Utas a indiqué que l'Association médicale canadienne avait consenti à approuver la position adoptée par l'ADC et que c'était là "un grand pas en avant."

Deux manuels ont été préparés à l'intention des municipalités et des provinces qui désirent faire des campagnes pour promouvoir la fluoration.

La déclaration de principe réaffirme la position de l'ADC en faveur de la fluoration des eaux publiques. Des copies sont disponibles au siège social de l'ADC.

SOLUTIONS DE RECHANGE POUR L'ADMINISTRATION DES SOINS DENTAIRES

Le Sous-comité préposé aux régimes d'administration des soins dentaires a tenu sa première assemblée le 13 février 1981. Il continuera à étudier la dentisterie par capitation, la dentisterie au détail et les différentes manières de prodiguer des soins dentaires.

CENTRE DE DOCUMENTATION

Mme Linda Teteruck a été nommée directrice de l'Éducation et sera chargée de l'établissement du centre de documentation au siège social de l'ADC. Elle continuera à assumer ses fonctions actuelles à titre de directrice des Affaires étudiantes. De plus, elle agira comme coordonnatrice des conférences de l'ADC et de l'éducation permanente. (Voir page 242 de ce numéro.)

SERVICES D'INFORMATION

Le Conseil a approuvé que soient publiés régulièrement des communiqués pour résumer les affaires en cours tant des différents conseils de l'ADC que de l'ADC même et que ces communiqués soient distribués à tous les membres des conseils ainsi qu'au personnel cadre de l'Association.

Le Conseil a également approuvé que soit préparé un rapport touchant la possibilité de créer un service qui grouperait les conférenciers agréés. Le rôle de ces conférenciers serait de diffuser l'information sur les sujets d'importance et sur les politiques officielles adoptées par l'ADC en rapport avec les questions du jour.

CONSEIL DES SOINS DE SANTÉ

On a approuvé les directives au sujet des assurances contre les accidents dentaires dans les écoles. Cependant, la distribution de ces directives sera retardée jusqu'à ce que soit amendé le

chapitre sur les limites de paiement, ce qui relève de la décision du Conseil des soins de santé.

AFFAIRES ÉTUDIANTES

Un rapport touchant l'évaluation des programmes étudiants a été renvoyé au Conseil des Affaires étudiantes. Il sera révisé et ses propositions seront soumises à l'approbation du Conseil en septembre 1981.

On a demandé au Conseil des Assurances et placements de considérer les recommandations touchant les CDS-PI qui ont été faites par le Conseil des Affaires étudiantes. Celui-ci demande que les CDSPI clarifient leur rapport avec l'ADC, expliquent le concours des assurances et, là où c'est possible, invitent un dentiste lors des séances d'information qu'ils donnent à l'intention des étudiants dentaires.

Le Conseil d'administration a décidé que l'on réviserait chaque année la participation de l'ADC aux assemblées de l'Association américaine des étudiants dentaires.

CONTAMINATION PAR LE MERCURE

Le Conseil a approuvé une décision de l'Exécutif pour que soit entreprise, dans les Maritimes, une étude sur la contamination par le mercure. On dispose actuellement de 2000\$ pour cette étude. (Voir le numéro de janvier 1981.)

ENQUÊTE SUR LA MAIN-D'OEUVRE

Le Conseil d'administration a appris qu'une assemblée préliminaire avait été tenue juste avant celle du Conseil pour étudier la possibilité d'instituer une enquête sur la main-d'oeuvre. Les participants comprenaient les membres du Comité de gestion; le président des Soins de santé, le Dr R.J. Sexton; deux dentistes de Santé publique, les Drs Lewis et J. Stamm, de l'Université de Toronto et de l'Université McGill respectivement; et deux économistes, le Dr Ron House et M. Kent Nash, de l'ADA.

CONSEIL DES SERVICES HOSPITALIERS

On a approuvé une proposition pour que le Conseil des Services hospitaliers demande à être membre du Conseil canadien d'agrément des hôpitaux et pour qu'une rencontre ait lieu entre l'ADC et le CCAH pour discuter ce sujet.

NOUVELLES AFFAIRES

On se propose d'établir un comité ad hoc pour mener une étude sur la possibilité de créer un service au sein de l'ADC dont le rôle et la structure auraient pour but principal la sauvegarde des intérêts du public. Ce comité se composerait de représentants des bureaux qui octroient les permis et de représentants de l'ADC en nombre égal, et il présenterait ses recommandations à la prochaine assemblée du Conseil d'administration, à la fin du mois d'août.

Les Australiens préfèrent le fluor

Après une année d'études intenses, faites à partir de données scientifiques, une Commission d'enquête, mise sur pied en mars 1979 à Victoria (Australie), a soutenu à nouveau les avantages de la fluoration de l'eau.

Le rapport, qui a été publié à la fin de l'année dernière par quatre scientifiques non dentistes, se fonde sur les données fournies par des organismes de santé dentaire d'Australie, des États-Unis, d'Afrique du Sud, d'Angleterre et du Canada, ainsi que sur l'analyse de témoignages personnels et collectifs, qui étaient tantôt pour tantôt contre la fluoration.

L'étude avait pour objet d'examiner les données scientifiques publiées sur la question depuis 1973, année où est entrée en vigueur une loi sur la fluoration non obligatoire de l'eau.

Voici les conclusions du rapport: 1) il est prouvé plus qu'abondamment que l'ingestion d'eau fluorée est un moyen efficace de réduire l'incidence de la carie dentaire; 2) chez les enfants en bas âge, cette ingestion a des effets préventifs la vie durant et même, chez les adultes, elle offre d'autres avantages; 3) le fluor offre les plus grands bienfaits, s'il est absorbé en quantité optimale dès le jeune âge; 4) la fluora-

tion de l'eau est la façon la plus sûre, la plus économique et la plus efficace qu'on connaisse pour distribuer le fluor à une collectivité; 5) la science n'apporte aucune preuve solide pour soutenir que la fluoration de l'eau au degré recommandé ait, chez les êtres humains, des effets toxiques, carcinogènes, mutagènes, tératogènes ou allergènes, bref qu'elle cause un inconvénient quelconque; 6) la fluorine est un oligo-élément essentiel et la fluoration des approvisionnements d'eau a pour but d'ajuster la concentration de fluor à un degré optimal pour en tirer tous les bienfaits.

La dentisterie au Manitoba

"Mon ministère et votre profession observent et étudient l'heureux développement de la santé dentaire au Manitoba."

Ainsi s'exprimait le ministre de la Santé du Manitoba, M. L.R. (Bud) Sherman, devant les représentants de l'Association dentaire du Manitoba, lors de la dernière assemblée annuelle que celle-ci tenait à Winnipeg en février.

M. Sherman a déclaré que, durant "les dernières années, voire les dernières semaines et les derniers jours," on a jeté les bases d'un avenir qui sera passionnant. De plus, il a souligné l'importance des professions dentaires dans l'ensemble des soins médicaux prodigués au public.

Après diverses rencontres avec les directeurs administratifs et des membres des comités de l'ADM, le ministre ne doutait aucunement, a-t-il avoué, que la profession et le ministère de la Santé du Manitoba faisaient des projets pour accomplir des progrès à l'avenir.

Il a fait remarquer avec prudence qu'aucun projet ambitieux ne serait formé dans l'immédiat, sauf pour ce qui a trait au développement du programme de santé dentaire pour les enfants.

"La prochaine année financière verra se maintenir l'état actuel des choses," a dit M. Sherman.

Il a expliqué que ce n'était pas là le résultat de contraintes budgétaires. Au contraire, le gouvernement se propose d'établir aussi rapidement que possible un programme dentaire plus complet.

Cependant, a-t-il ajouté, il importe que nous agissions lentement, de façon prudente et réfléchie."

"Si nous travaillons ensemble, nous pouvons introduire progressivement un programme de soins dentaire très complet pour le Manitoba au cours

des années '80. Toutefois, la route sera longue," a-t-il dit.

À son avis, la première question touche à la responsabilité personnelle en matière de soins de santé. Aussi a-t-il demandé: "Que peuvent faire le gouvernement et la profession pour rendre les gens conscients à ce sujet?"

Le ministre a reconnu que c'était là un problème complexe qui ne se résolvait pas seulement par les communications.

Par ailleurs, parce qu'un service est disponible, cela ne signifie pas nécessairement que les gens y auront recours, a-t-il fait constater.

Les enfants sont une cible, et la dentisterie préventive est une des clefs des soins dentaires, a-t-il poursuivi.

Trente ans passés, quand la carie dentaire était reconnue comme un problème sérieux, les dentistes ont indiqué la voie à suivre avec la fluora-

tion et d'autres programmes.

"En appuyant la fluoration," a remarqué le ministre, "vous avez peut-être contribué à vous priver de travail, mais votre professionnalisme vous oblige à travailler en ce sens."

Le programme de santé dentaire pour les enfants est la pierre de touche du programme de prévention, a commenté le Dr Sherman, et les renseignements qu'on en obtient sont très utiles pour la planification.

Dans le passé, a-t-il dit, on accordait trop d'importance à la dentisterie restaurative, ce qui était "une mauvaise habitude."

Pour terminer, il a demandé à la profession dentaire de continuer à contribuer aux programmes de santé.

"Nous voulons éviter que le gouvernement prenne la position de quart arrière et commande votre jeu."

Discours du président à l'ADM

Le Dr Gil Utas, président de l'Association dentaire canadienne, a, au nom de la profession, indiqué aux représentants présents à la dernière assemblée annuelle de l'Association dentaire du Manitoba, les activités courantes de l'ADC.

La campagne de recrutement 1981 se déroule bien, a-t-il déclaré, et la situation financière de l'ADC est bonne.

"Il appartient à l'ADC de parler au nom des dentistes du Canada," a-t-il dit, et de récentes discussions ont démontré que l'ADC sait se faire entendre à Ottawa.

Par exemple, lorsque le gouvernement a annoncé qu'il imposait une taxe douanière sur certains matériaux

dentaires, l'ADC a protesté énergiquement, demandant le rétablissement de la franchise pour les articles en question. Une réponse favorable de Mme Monique Bégin, ministre de Santé et Bien-être Canada, suivit bientôt.

Maintenant, a poursuivi le Dr Utas, il faudra rencontrer les hauts-fonctionnaires du ministère des Finances et, en vue de ces rencontres, l'ADC a fait appel aux services d'un expert en matière de tarifs douaniers.

À ce sujet, l'ADC avait invité les dentistes canadiens à écrire personnellement au ministre des Finances ou à leur député.

"Il s'agit d'une affaire en cours," a observé le Dr Utas.

Le Dr Utas a aussi fait état des défis que la profession doit relever, à savoir la question des thérapeutes dentaires, la main-d'oeuvre, l'affaire de Cornwall Island et la fluoruration.

Aujourd'hui, a-t-il dit, il y a, par dentiste, mille patients de moins qu'autrefois et certaines écoles dentaires diminuent le nombre des inscriptions. Cette situation est due à la fluoruration, à la dentisterie préventive, au personnel auxiliaire et au meilleur rendement dans les cabinets dentaires en général.

Un autre défi particulièrement urgent à relever, ce sont les autres façons d'administrer des soins dentaires, à savoir le régime de capitation, les cliniques désignées par les assureurs, les organismes de santé et la

dentisterie au rabais.

Par ailleurs, le Dr Utas a commenté l'incessante controverse au sujet de la fluoruration, déclarant que "l'ADC réaffirme énergiquement sa position sur la fluoruration". Il a fait part à ses auditeurs du rapport en cinq parties que l'ADC a commandé et dont des extraits sont publiés dans les numéros de février et de mars du Journal de l'ADC.

Le rapport a reçu l'adhésion de l'Association médicale canadienne, a-t-il observé.

D'autre part, l'ADC s'occupe du test d'aptitudes aux études dentaires, des programmes d'agrément et de l'établissement d'un centre de documentation.

On étudie aussi la publicité institu-

tionnelle, a-t-il dit, et on a décidé de suspendre l'engagement de fonds à ce sujet, jusqu'à ce qu'on puisse évaluer les résultats des essais faits par l'Ontario et les États-Unis dans ce domaine.

Quant à la récente décision prise par l'ADC de ne pas donner suite à son intention de se retirer de la FDI, il en résultera pour les dentistes canadiens plus d'occasions de participer à la recherche, aux connaissances et aux découvertes sur le plan international.

"Nous avons besoin d'une forte organisation nationale pour protéger la profession. L'unité fait la force," a conclu le Dr Utas. "Notre profession ne sait pas distinguer entre le 'nous' et le 'eux'. Aussi cheminons-nous ensemble comme il se doit."

Nomination

Lors de la dernière assemblée annuelle de l'Association dentaire du Manitoba, le Dr Robert C. Baker en devenant officiellement le 57e président.

Diplômé de l'Université du Manitoba en 1963, le Dr Baker complétait ses études en orthodontie à l'Université de Toronto en 1967.

Membre de plusieurs comités de l'ADM, il fait partie du Conseil d'administration depuis 1976.

Les autres membres du Conseil de l'ADM sont: les Drs Ussher Claman, Harold Diamond, John Dillson et Gene Solmundson, de Winnipeg; le Dr Carl Enns, du Portage de la Prairie; le Dr Orville Meschuk, de Dauphin; Mme Joanne Gilbert, représentante des auxiliaires; et M. David Snitka, représentant du ministre de la Santé.



Près de 50 représentants ont pris part à l'atelier des priorités qui a eu lieu au Château Montebello, Québec, les 4 et 5 mars derniers.

L'atelier s'est divisé en petits groupes de travail tel que celui qu'on découvre sur la photo ci-dessus. De gauche à droite, on reconnaît le Dr J.G. Landry, président de l'Ordre des dentistes du Québec; le Dr E.F. Allison, membre du Conseil d'administration de l'ADC, de l'Alberta; le Dr W. Leskiw, président du Conseil des affaires étudiantes, de l'Ontario; et le Dr D. Mock, secrétaire-trésorier de l'Académie canadienne de pathologie buccale.

Directrice de l'Éducation

M. Hubert Drouin, directeur général de l'Association dentaire canadienne, est heureux d'annoncer la nomination de Mme Linda Teteruck au poste de directrice de l'Éducation.

Mme Teteruck est directrice des Affaires étudiantes depuis 1977. En plus de conserver les responsabilités attachées à ce poste, elle sera aussi coordonnatrice des conférences et directrice du centre de documentation au siège social de l'ADC.

Mme Teteruck détient une Maîtrise ès Arts de l'Université de Western Ontario et, durant sa carrière universitaire, elle a considérablement travaillé avec les étudiants.

Ce fut en 1975 qu'elle commença à travailler pour l'ADC dont le siège social se trouvait alors à Toronto. À ce moment, elle fut chargée de l'administration du test d'aptitudes aux études dentaires.

Mme Teteruck continuera à gérer le programme du T.A.E.D., s'occupant des 18 centres où le test se donne deux fois l'an.



Linda Teteruck

Quant au nouveau centre de documentation, c'est elle qui le supervisera mais, a-t-elle déclaré, c'est un libraire qui aura soin des détails.

Dans ce domaine, le travail est déjà en cours. Il consiste à réviser le matériel disponible et à commencer à le recueillir.

Création d'un sous-comité

L'Association dentaire canadienne a créé un sous-comité pour étudier les façons de prodiguer des soins dentaires.

Ce sera le sous-comité chargé des régimes d'administration des soins dentaires et il comprendra six membres dont l'un fera partie du Conseil des Soins de santé et agira comme président.

Chargé d'étudier et d'évaluer les différents régimes d'administration des soins dentaires, le sous-comité distribuera des renseignements touchant la planification, l'administration, le développement et le financement des régimes d'administration des soins dentaires, établira des directives et aidera les sociétés membres de l'ADC ainsi que les autres organisations dentaires pour les affaires ayant trait aux quatre sujets indiqués.

Le sous-comité doit se réunir deux fois en 1981.

Guide révisé

Santé et Bien-être Canada est à réviser les éditions française et anglaise du guide pédagogique de santé dentaire (K-12) qui sera disponible prochainement. Des exemplaires seront distribués gratuitement à chaque province. De plus, le ministère espère en mettre des exemplaires supplémentaires en vente.

Régime d'épargne-retraite de l'ADC

Les valeurs respectives du Régime d'épargne-retraite de l'Association Dentaire Canadienne étaient les suivantes au 31 février 1981:

<i>Fonds d'actions ordinaires</i>	\$55.162
<i>Fonds à revenu fixe</i>	\$24.099
<i>Fonds garanti</i>	\$19.373
<i>Fonds de placement équilibré</i>	\$12.747

L'avoir total (valeur marchande) du régime s'élevait à \$34,555,107.

Au 31 décembre 1980, les chiffres du mois précédent étaient les suivants:

<i>Fonds d'actions ordinaires</i>	\$55.299
<i>Fonds à revenu fixe</i>	\$24.221
<i>Fonds garanti</i>	\$19.171
<i>Fonds de placement équilibré</i>	\$12.887

L'avoir total (valeur marchande) du régime s'élevait à \$33,875,234.

Pour obtenir tout renseignement supplémentaire, prière de s'adresser aux: Régimes des rentes et d'assurances subventionnés par l'ADC, P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

Suspension d'un permis

Les politiques de l'ADC touchant les régimes d'assurance dentaire sont fondées sur le principe que l'entente entre un dentiste et son patient constitue un contrat inviolable entre deux parties et que cette entente interdit toute ingérence de la part d'une tierce partie, sauf si les deux premières y consentent ou si la loi l'exige.

Aussi l'Association dentaire canadienne s'oppose-t-elle au principe de la cession des bénéfices et avise-t-elle ses membres en conséquence.

En effet, elle tient à préserver l'entente entre un dentiste et son patient parce qu'alors personne n'est liée aux nombreuses clauses que contiennent la plupart des contrats, lesquelles limitent les responsabilités de l'assureur, et aussi parce que personne n'a à se préoccuper de la solvabilité d'un assureur.

Comme exemple récent de ce dernier cas, mentionnons le permis de la firme *Delta Dental and Co-operative Health Services* que le surintendant des assurances de l'Ontario a dû suspendre. Cette compagnie offrait des régimes d'assurance dentaire et médicale à des particuliers et à d'importantes compagnies de l'Ontario ainsi qu'aux employés municipaux de North York, Toronto et Ottawa.

Les enquêteurs ont découvert que le capital de la compagnie avait rapidement diminué de juin 1979 à juin 1980.

L'argent était censé constituer un excédent. En effet, les assureurs sont obligés d'avoir en mains une somme qui est à part des montants qu'ils reçoivent en primes.

M. Frank Drea, ministre des Relations commerciales et des consommateurs de l'Ontario, a fait remarquer que les assureurs doivent avoir un excédent de 1\$ pour chaque 4\$ perçus en primes. Toutefois, la firme Delta avait puisé dans son excédent pour payer

des réclamations et le personnel.

On ne sait pas encore à combien s'élève le montant des réclamations que la firme n'a pas payées.

Pour éliminer tout problème qui résulte de situations de ce genre, l'Association dentaire canadienne recom-

mande aux dentistes d'utiliser un tampon encreur pour mettre la mention "PRIÈRE DE PAYER LE SOUS-SCRIPTEUR" en lettres grasses sur la partie du formulaire de réclamation dentaire approuvée par l'ADC qui est réservée à la cession des bénéfices.

Québec appuie encore la fluoruration

Les rumeurs voulant que le Québec condamne la fluoruration se sont révélées fausses. Dans une lettre du 11 février 1981 adressée à l'Association dentaire canadienne, un fonctionnaire du ministère des Affaires sociales du Québec déclarait que la loi touchant la fluoruration n'a pas été abrogée, mais que le ministère n'appliquait pas de sanction aux municipalités récalcitrantes qui fluoraient leurs eaux volontairement.

L'Assemblée du Québec a imposé la fluoruration en 1975. Cependant, plusieurs se sont alors opposés énergi-

quement à cette loi, y compris le maire de Montréal, M. Jean Drapeau. Un comité consultatif a ensuite présenté un rapport au ministre de l'Environnement, condamnant la fluoruration et alertant les médias.

Malgré ce fait, le ministère des Affaires sociales continue de croire aux bienfaits de la fluoruration et considère que cette mesure devrait constituer la base de tous les programmes publics de santé dentaire. Aussi offre-t-il encore de défrayer le coût total d'achat et d'installation des systèmes de fluoruration.

Départ de Mme McKee

Mme Elizabeth McKee, première rédactrice en chef du Journal de l'ADC à Ottawa, a quitté l'Association dentaire canadienne pour aller relever de nouveaux défis ailleurs.

Mme McKee s'est vue confier la rédaction du Journal il y a deux ans passés lorsque ce poste a été transféré de Toronto à Ottawa.

Les compliments adressés au "nouveau" Journal sont dus à Mme McKee pour une grande part. Elle en a donné une présentation nouvelle, créé de

nouveaux sujets d'intérêt, écrit plusieurs articles, conçu la plupart des pages couverture, établis de nombreux contacts et travaillé très durement.

Bien que le Bureau éditorial espère toujours améliorer le Journal, il est très reconnaissant du progrès marqué qui a été réalisé sans la direction de Mme McKee.

*Le président du Bureau éditorial
A.E. MacLeod*



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Les membres de l'Association dentaire canadienne ont droit de faire des prêts illimités à la Cinémathèque de l'Office national du Film et de profiter de tous les autres services offerts par la CONF. On peut se procurer un catalogue des titres en s'adressant à l'ADC. Pour obtenir des renseignements complets sur les services de la CONF, veuillez remplir le formulaire suivant.

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Location of broken instrument fragments

A. Ruprecht, DDS, MScD, FRCD(C)

A. Ross, DDS

Saskatoon, Saskatchewan

The location of fragments lost during surgery due to broken instruments is a problem that is not common today in dental practice. Two causes of such breakage are misuse of the instrument by the dentist and defective manufacturing. This article deals with an episode of the latter.

The manufacture of instruments is rigidly controlled so that defective products are not usually released to the market. Occasionally, however, through the use of inferior materials, change in manufacturing technique or ineffective quality control, defective instruments may be used unknowingly by dentists. This may put them in the position of having to search for a broken fragment to avoid infection due to leaving the fragment in the tissues, or to prevent complications due to swallowing or aspiration of the fragment.

Recently in our dental clinic a series of new straight extraction elevators were found to be defective; in one day, three of them broke during routine usage on three different patients. This resulted in the need to locate a metallic fragment approximately 0.5 x 1.0 x 2.0 mm in each case. To avoid unnecessary radiation to the patient, the suction lines were flushed with water so that the aspiration bottle could be checked for the fragment that might have been picked up by the aspirator tip during surgery. In the past, this usually entailed filtering the bottle's contents slowly through several layers of gauze, an unpleasant and time-consuming task. We therefore chose to employ the capabilities of the Department of Diagnosis and Oral Radiology at the College of Dentistry, University of Saskatchewan, to aid in this investigation. Radiographs were taken of the aspiration bottle, using the Ultracrano-T® with par speed screens and high speed film. This technique demonstrated a metallic fragment in the aspirated contents of the bottle, thus avoiding further work and eliminating unnecessary radiation to the patient (Fig 1). In one case, radiographs did not reveal the presence of a fragment although it was located visually. This may have been due to its very small size and the relative radiopacity of the glass bottle.

SUMMARY

When small fragments of instruments are lost during dental procedures, the common method of locating them is through radiographs of the patient. At times however, it may be possible to locate a fragment by radiographing the aspirating bottle. A false negative report is, nevertheless, possible when a fragment present in the aspirate is very small and thus fails to produce an image on a radiograph.

Dr. Ruprecht is professor and head, Department of Diagnosis and Oral Radiology, College of Dentistry, University of Saskatchewan, Saskatoon, Saskatchewan.

Dr. Ross is associate professor, Department of Oral Surgery and Anaesthesia; and assistant dean, College of Dentistry, University of Saskatchewan.

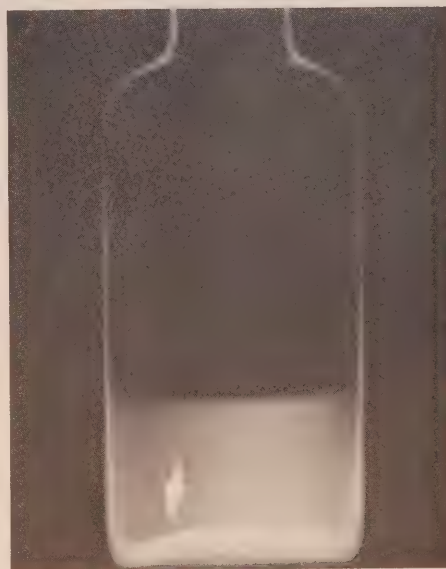


Fig. 1. The instrument fragment is seen (white arrow) on the radiograph of the aspiration bottle.

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Previously unpublished articles, critical reviews of material on advances in dentistry and clinical reports are welcomed by the Journal of the Canadian Dental Association for consideration for publication. Material is accepted by the Journal on the understanding it is submitted solely to this publication.

SCIENTIFIC ARTICLES: should not exceed 2,500 words with a minimum number of illustrations, diagrams, photographs, tables or graphs. An average of 20 references is acceptable.

MAJOR REPORTS: are longer contributions dealing with diagnosis and treatment of dental disease, studies in education, clinical and laboratory research and other detailed investigations pertinent to dentistry and related fields.

CLINICAL REPORTS: are brief (up to 1,500 words) reports, case histories and clinical observations. References should be limited and a minimum number of illustrations used.

OPINIONS: fully documented (800 words or less), are welcome for publication at the discretion of the editor.

WORD COUNT: is based on the calculation of approximately 250 words typed, double-spaced on 8½ x 11 paper.

MANUSCRIPT REQUIREMENTS: submit three (3) copies (original and two copies) to the editor, Journal of the Canadian Dental Association, 1815 Alta Vista Drive, Ottawa, Ontario K1G 3Y6. All graphs, photographs, charts and tables must also be submitted in triplicate.

A covering letter and a summary of the submission must accompany each article. Abstracts will be translated into French. The full mailing address of the corresponding author must accompany each manuscript.

The editor reserves the right to edit manuscripts for stylistic consistency, clarity and conciseness. The corresponding author will receive a copy of the edited manuscript for checking prior to publication. Galley proofs will be forwarded to authors but changes other than correction of typographical errors will not be accepted. Authors will be given a 24-hour turn-around time. No exceptions will be made. Authors must list professional degrees, academic/hospital affiliations and appointments and are requested to submit a photograph of themselves for publication with the article.

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1. Hechter, F.J. Symmetry and dental arch form of orthodontically treated patients. *JCDA* 44:173-184, 1978.

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The Journal assumes no responsibility for artwork. Camera-ready graphs, charts and drawings only are acceptable. Tabular matter must be cleanly typewritten.

PERMISSION AND WAIVERS: must accompany the manuscript. Waivers are mandatory for the publication of photographs of patients unless faces are masked to prevent identification. Waiver forms are available from the Journal of the Canadian Dental Association, Ottawa. Permission of the author and publisher must be obtained for use of previously published material quoted in the text and for use of previously published illustrations.

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PLEASE NOTE: MANUSCRIPTS THAT DO NOT CONFORM TO THE ABOVE REQUIREMENTS WILL BE RETURNED TO THE AUTHOR. PLEASE READ ALL INSTRUCTIONS THOROUGHLY.

Please direct all enquiries to: The Editor, Journal of the Canadian Dental Association.

The automatic resort to radiographs whether for the examination of new patients or at recall has become a public and professional issue of concern. In view of fluoridation, improved oral hygiene education and in the interest of reducing the use of x-radiation in health screening investigations, the productivity or information yield of the bitewing radiograph is reassessed and compared to earlier studies. The results indicate that the routine bitewing radiograph remains a productive technique for initial dental examination.

Information yield from routine bitewing radiographs for young adults

R.G. Stephens, DDS, MSc

S.L. Kogon, DDS, MSc

R.J. Wainright, DDS

J.A. Reid, DDS, FAADR

London, Ontario

The posterior interproximal radiograph (bitewing) was introduced as a diagnostic aid in 1925.¹ It was promoted on the basis of early disclosure of proximal carious lesions which some believed could not be located by even the most careful clinical examination. This claim was later supported by a number of studies²⁻⁶ spanning the era 1940-60; results varied but a range of 30-70 per cent detection of early proximal lesions *additional* to those found by explorer was reported. An average figure of 50 per cent additional disclosure is usually quoted.⁷ Such a high level of productivity has led to the routine, automatic use of the bitewing radiograph as an essential part of the initial

examination for new patients. Indeed, not to take such films would be considered ill-advised, if not negligent, in contemporary practice.

A changing public and professional attitude toward all the uses of ionizing radiation has compelled reassessment of our radiographic practices. National and international agencies, responding to a growing concern about increasing human exposure to radiation, have published recommendations for the guidance of the profession.⁸⁻¹⁰ The essential theme of the recommendations is the "use of clinical judgment, to the end that only diagnostically

necessary (thus beneficial to the patient) radiographs will be made."⁸ The taking of diagnostic films, based upon clinical examination where there is a reasonable expectation of information yield of benefit to the patient, is not being questioned. However justification is sought for the continued use of radiographs in the form of a screening or health investigation, i.e., where films are made without a prior clinical examination which would indicate a diagnostic need. These practices in medicine, e.g., mammo-graphy, mobile chest x-ray clinics, films to assess fetal position in utero, etc. are being vigorously questioned or discontinued. Our use of radiographs at initial examination and at recall appointments has become automated in both numbers and frequency as a routine part of examination and often is *not* determined by clinical indications. In this respect our practices can be classed as health investigations — not diagnostic procedures. The dramatic increase in the use of dental radiographs (especially bitewings) has further highlighted our radiographic practices to the point where justification is necessary¹¹ (Tables 1 and 2).

Table 1
Annual Number of Dental Radiographs
(Per 1000 Population)

Country	Year	Number
1. Sweden	1955	300
	1969	570
	1974	1500*
2. Japan	1958	13
	1974	855

* Figure in the U.S. in 1970 was 1400 per 1000 population.

Increase in Sweden 1969-74 corresponds to about a 20% per year increase over the last 5 years.

Table 2
Type of Dental Films Exposed
(Sweden 1974)

Bitewings* (children)	3 million
Bitewings* (adults)	5 million
Other	5 million
Total	13 million

* Bitewings represented 62 per cent of all dental films.

The use of bitewings and other radiographs as a routine part of examination can only be supported if the information yield is sufficient to show their necessity as a supplement to clinical examination. While early studies supported this practice, reassessment is now appropriate, not only in view of the general concern about levels of radiation exposure but also because of the possibility of significantly decreased yield due to changing patterns of dental health. Since the advent of mass communal water fluoridation, there is a significant proportion of our population (over 50 per cent) who have been exposed to this very effective preventive measure for all or at least part of their lifetime. In addition, the past 10 — 15 years have seen a very great expenditure in time and money on dental public health to encourage brushing, flossing and other control measures. Great improvements in economic well-being have affected the general level of living conditions, nutrition and education. The results of these changes seem to be apparent in a growing number of patients with intact, well cared for dentitions which show little obvious dental disease. Thus, given these societal changes and the pressure to justify our radiation use, it is believed that a reassessment of the basis for our automatic radiographic examination practices is pertinent.

The present study was devised: to assess the productivity of posterior bitewing radiography used (as it is in practice) as a health investigation on speculation of disclosure of proximal dental caries in a young, apparently dentally healthy, group of patients; and to determine whether the dentist could predict the need for diagnostic bitewings based upon indications disclosed by clinical examination.

METHOD

Patients were selected from those seeking treatment at the University of Western Ontario, Faculty of Dentistry. Each patient had to satisfy the following criteria: non-complicated medical history; between 13-30 years of age; absence of obvious periodontitis; absence of severe malocclusion; essentially complete dentition; no extensive restorative or rehabilitative dentistry; no prosthetic or orthodontic appliances; and no history of jaw fracture or surgical procedure for oral pathosis.

A Panorex®* and posterior bitewings were taken for each patient. The number of bitewings (two or four) was determined by the age of the patient and size and shape of the dental arches. This is the standard radiographic survey in our teaching clinic for young adult patients with apparent good dental health.¹²

The study group consisted of 54 patients with a median age of 23 years and a modal age of 21. An oral examination

was completed for each patient. These examinations were supervised by two instructors (SLK and RJW).

The clinical examination included a medical history, extra- and intraoral soft tissue examination, detailed examination of the dentition and periodontium and an occlusal assessment. Instrumentation was standardized by using new dental explorers* and the dentition was examined with good illumination after isolating quadrants with cotton rolls and drying with air. The examination findings were recorded on a graphic chart. The examiners did *not* have the radiographic films available during the clinical examination phase of the study. Radiographic interpretations were done *after* the clinical examination. Since no anterior periapical films were taken as an aid to diagnosis of anterior carious lesions, a high intensity light source** was used to transilluminate these teeth.

In order to assess the oral hygiene practices of the study group, each patient was questioned on their brushing and

flossing frequency. In addition, each patient's exposure to communal water fluoridation, topical and supplemental fluoride use was assessed. A list, noting place of residence and duration was obtained for each patient. Reference was made to data on dates of initiation of communal water fluoridation compiled by the Ontario Ministry of the Environment. In addition, each patient was asked if he or she could recall the application of topical fluoride or the use of supplemental fluoride drops. Finally, the use of fluoridated toothpaste was determined.

After completion of the clinical examination phase, the diagnostic data were reviewed. However, on this occasion the information revealed on the bitewing radiographs was considered in developing a treatment plan. The radiographs were viewed in a darkened room, using a standard viewbox, light-excluding frames and a magnification lens (2x). All carious lesions noted on the radiographs were recorded on a separate form using a modification (Fig 1) of

* Panorex® S.S. White, Dental Products Division, Philadelphia, Pa., U.S.A.

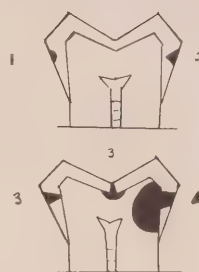
* Hu-Friedy, No. 3, U.S.A.; Amflex, No. 5, American Dental Mfg. Co., U.S.A.

** Novor, Demetron Research Corp., Danbury, Connecticut, U.S.A.

Figure 1
Scoring code for radiographic caries

CODE

1. Caries *less* than midway through the enamel. It may be an irregular radiolucency rather than a classic cone.
2. Caries *more* than midway through enamel but *not* involving the dentino-enamel junction.
3. Definite involvement of the dentino-enamel junction. Dentine involvement less than midway to the pulp.
4. Caries of dentine more than midway to the pulp.



In an attempt to reduce subjective variation the following guidelines are applied:

- (a) If in doubt regarding the existence of an early carious lesion, then nothing is recorded.
- (b) If in doubt regarding the depth of a lesion the lower score is recorded.
- (c) No scoring of enamel caries is possible if there is overlapping of adjacent enamel images.

the scoring system devised by Haugejorden and Slack.¹³ Treatment decisions were made on the basis of the information from the clinical and radiographic examinations.

RESULTS

Oral hygiene status

Responses were graded so that a determination of Excellent was scored for those who brushed daily and used floss at least once per week (only eight of 54 patients, seven per cent, used floss daily). A patient who brushed intermittently and never flossed received a Poor score. All others were scored Good. Fifty-three of the 54 patients were Excellent or Good with only one considered Poor; this supported our clinical selection criteria.

Fluoride history

Twenty patients had significant exposure to fluoride protection, i.e., they were exposed to the recommended level of fluoridated water for the major portion of their tooth development years, used fluoridated toothpaste and claimed to have had topical fluoride supplements. Fifteen patients were graded as having little significant exposure to fluoride protection; this grade corresponded minimally to the use of fluoridated toothpaste and/or to brief exposure to communal water fluoridation. Very few of these young adults had a life-time exposure to fluoride, testimony to the relatively recent introduction in most of our regional communities, e.g., London 1967.

Proximal caries

The bitewing radiographs disclosed proximal lesions not detected by the clinical examination in 48 patients (89 per cent) of the study group; in four of these patients, there were no proximal lesions detected by clinical examination (Table 3).

The total number of proximal lesions disclosed by examination (clinical and radiographic) is shown in Table 4. Definite clinical lesions accounted for 36 per cent of this total while the radiograph was needed to confirm or detect the remaining 64 per cent. A total of 68 proximal lesions were suspected by the examiners but 26 of these were not confirmed by the radiographs. Only one occlusal lesion was detected by radiograph alone.

While the great majority of proximal lesions disclosed only by the radiograph were confined to the enamel, a significant number (33 or 19 per cent) were not detected by clinical examination even though they had entered the dentine (Table 5).

Table 3 Proximal Caries Disclosed By Radiographs — reported by number of patients		
Radiographic disclosure of additional caries not found clinically, (number of patients)	44	(81%)
No caries detected clinically but radiographs revealed some lesions	4	(8%)
No additional caries detected radiographically	6	(11%)
Total Number of Patients	54	(100%)

Table 4 Proximal Lesions		
Definite clinical lesions	122	36%
Suspected clinical lesions confirmed by radiograph	42	13%
Additional lesions disclosed on radiographs	171	51%
Total	335	100%

Table 5 Proximal Lesions Detected Only by Radiograph		
Enamel lesions (Code 1 or 2*)	138	81%
Dentine lesions	33	19%
Total	171	100%
* See Fig. 1.		

DISCUSSION

Results indicate the bitewing radiograph made a significant contribution to the detection of caries in the vast majority (89 per cent) of patients in this study. Aside from its value in assessing the depth of known lesions in relation to the pulp, the radiographs also contributed by: (1) confirming the existence of 42 proximal lesions (13 per cent) suspected to be present by clinical exploration; and (2) disclosing an additional 171 proximal lesions *not found or suspected* by clinical examination. The use of radiographs to assess the validity of clinical examination findings is an important and truly diagnostic use of radiation. The 51 per cent yield of cavities, additional to the lesions discovered solely by clinical examination, is not substantially different from previous studies in spite of the likelihood of better dental health and exposure to the benefit of fluoridation in several vehicles. While the effectiveness of better oral hygiene and fluoridation has significantly reduced the total number of cavities, it has not, according to these data, diminished the value of the bitewing. We believe the results provided continuing support for the original foresight of those who pioneered its use.

The high productivity was a surprise to the authors who had suspected that the apparently dentally healthy group studied would not provide anything approaching the yield reported in earlier studies. Even though most of the study group had good to excellent oral hygiene and many had significant exposure to fluoride, the examinations indicated that 92 per cent of the bitewings (**Table 3**) could have been prescribed for diagnostic purposes, i.e., to determine the depth of definite clinical cavities or to confirm suspected clinical lesions. Radiography for the remaining four patients could be considered a screening procedure.

The posterior bitewing when introduced in the 1920's was hailed as an important preventive measure by Dr. Charles Mayo, who declared that the new film would enable dentists to locate decay earlier and fewer lesions would be overlooked. It was appreciated by the profession at the time that "many cavities that cannot be located by eye or instruments are located by the roentgen ray."¹ However, the bitewing by very early disclosure of proximal lesions created a new problem, i.e., the clinical management of early enamel lesions. There was concern that restoration at this stage would involve too much destruction of sound tooth and yet the concept of not restoring a carious surface, however incipient, was foreign to the professional practices of that day; even today this problem is unresolved.

Because there are obvious limitations in the use of a probe in detection of proximal carious lesions, it was anticipated that the bitewing radiograph would reveal many enamel lesions (**Fig 1, Codes 1 and 2**) missed clinically. Although this expectation was substantiated, it was somewhat surprising that almost 20 per cent of the total lesions detected *only* by radiograph were at least a Code 3 (**Table 5**) i.e., there was at least involvement of the dentino-enamel junction; this is most important information in the prevention of pulp damage. Of the 171 additional proximal lesions found only by the bitewing, 89 or 52 per cent were sufficiently deep to require restorative therapy. The remaining 82 lesions were to be the focus of primary preventive measures and would be reassessed by diagnostic bitewing radiographs at appropriate intervals. The high productivity reported here would justify our continuing practice of automatic bitewing use *prior* to clinical examination for *new* patients of this age on initial examination. For patients with obvious caries, a poor level of oral hygiene, periodontal disease or other signs and symptoms of disease, the ordering of radiographs (bitewing or other intraoral views) has never been questioned for it is an obvious diagnostic use of radiation.

CONCLUSIONS AND SUMMARY

When our current approach to radiography is examined¹⁴ it is apparent that often we do not base the use of x-ray films on the findings of prior clinical examination. For the reasons given earlier we assume the presence of dental disease and expect to find evidence on our radiographs. However, this practice of taking a fixed number of radiographs, at set intervals, for all patients regardless of history or state of dental health is now at variance with guidelines approved by responsible national and international dental organizations. Some of these guidelines further recommend that "x-ray examinations for dental purposes should be prescribed only on the basis of prior clinical evaluation or history."¹⁰ Our use of radiation in a health investigation role is likely to come under even more scrutiny because of the vast increases in the use of dental films. Even cost is becoming less inhibiting as insurance payment for these services is increasingly available. We believe that any increased use of films taken on speculation of information yield will need to be based upon evidence of significant disclosure of disease.

It should be clear that our conclusion in support of the current use of bitewing radiography refers solely to its role in the initial examination of new patients. Justification for

the use of automatic recall radiographs (BW's or CMS) at set intervals for all patients for an unlimited number of years is another problem requiring investigation; indeed the amounts of radiation expended in these practices would be more significant and should require proof of patient benefit for their continuance.

From the data presented here, the bitewing radiograph is as productive and indispensable for the disclosure of proximal cavities as earlier studies had indicated. They can continue to be used for new patients with assurance that there is significant benefit for the radiation expended. Bitewing radiographs have low productivity in the disclosure of occlusal caries as shown by the fact that only one occlusal lesion was detected solely by radiography. Preferably, the evidence or suspicion of disease arising from examination or history should be the basis for our prescription of the number and types of radiographs, even though it appears from this data that the use of bitewings as a screening examination can still be justified on the expectation of a significant yield of information.

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Alberta x-ray protection program

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In 1970, this Journal published the findings from the radiation survey of 100 dental x-ray units in Alberta. These were the first inspections of the facilities and a large number of unacceptable situations were revealed. The purpose of this article is to report on findings from the recent inspection of 100 dental units in Alberta, to show improvements have been made and to indicate areas where there is still room for improvements.

The Alberta government established an x-ray protection program in 1967 and during the following year, owners of dental x-ray equipment were encouraged to have their facilities inspected.

In 1970, after the program had been established on a voluntary basis for three years and after a number of undesirable situations had been encountered, the Alberta Radiation Protection Act¹ was adopted. This gave authority to formally apply the inspection program to all facilities and provided a means of preventing the use of unsafe equipment. The Act provided for mandatory registration of premises and equipment and gave inspectors power of entry and authority to require improvements. It also established a Radiation Health Advisory Committee to serve in an advisory role to the program.

In 1972, regulations² were passed which established minimum standards for the installation and use of x-ray equipment. The regulations outlined basic requirements for operator and patient protection and stipulated maximum permissible radiation doses for x-ray workers and others associated with x-ray facilities.

To register new facilities, owners are required to submit drawings showing layout, construction and occupancy and specifications of the x-ray equipment to the Alberta

Radiation Health Branch. From this information, a shielding assessment is made to ensure that persons in the vicinity will not be exposed to more than the maximum permissible radiation doses. The actual shielding calculations are based on the criteria contained in the U.S. National Council on Radiation Protection and Measurements Reports Nos. 35 and 49.^{3,4} In almost all cases, the two 1.25 cm thickness of plaster board normally specified for walls provides more than adequate protection. Very occasionally, because of a high workload or closeness of a worker to an x-ray room, four thicknesses of 1.25 cm wallboard or the incorporation of lead shielding into a wall is required.

The inspection of facilities still follows the basic format outlined in the earlier paper,⁵ although less emphasis is now placed on the examination of the x-ray unit itself and the staff spends more time helping the dentist produce a first-class radiograph and observing good film processing and safe radiation practices.

Following inspection, a letter is sent to the owner of the facility, indicating that (i) the equipment and premises comply with the regulations, or (ii) directives must be attended to within a stated period, or (iii) that the x-ray equipment must be taken out of service until changes are made. Occasionally a Ministerial Order is issued prohibiting the use of equipment, although this step has never had to be taken for dental facilities. When an x-ray installation does comply with the requirements, a Certificate of Inspection is issued. Dentists in the province have co-operated with the program very well and there is usually a prompt response to any suggestions made for changes or improvements.

SURVEY RESULTS

In the present survey, 100 dental x-ray units were examined and the findings compared with the results of the inspections made of the first 100 machines seen some 10 years earlier. The present survey was of x-ray machines located in 56 dental offices, mainly city practices in Edmonton and Calgary.

Tables 1 and 2 summarize the types and ages of the x-ray units. The most notable change was that whereas earlier, 47 units over 10 years old were seen, in the recent survey there were only 14 units in this grouping. For the record, the oldest operating machine encountered was a Fischer Type 1, serial number 2336, installed about 1920.

Table 1

Types of dental x-ray units surveyed

Manufacturer	Initial survey	1978
General Electric	26	27
Machlett (Adapted)	1	
Morita	1	6
Philips	3	9
Ritter	47	38
Siemens	11	10
Weber	5	9
White		1
XRM	6	

Table 2

Comparative ages of dental x-ray units surveyed

Years	Initial survey	1978
1 to 5	34	61
6 to 10	19	25
11 to 15	13	4
16 to 20	22	6
21 to 25	9	
Over 25	3	4

Table 3 lists equipment deficiencies and compares the findings from the two groups of surveys. The initial inspection revealed that about two-thirds of the x-ray units had one or more serious deficiencies. During the recent group of surveys, no machines were found with major faults, but three units with unstable tube heads and one

with too short an exposure cord were seen. During the first few years of the program, equipment was checked for electrical grounding, but now that some x-ray units use solid state circuitry this practice has been discontinued because the procedure could damage such components.

The exposure rate for each machine was measured at the end of the position-indicating device, using the stated average operating technique for a bite-wing film. The purpose was to obtain an index of the general efficacy of each x-ray unit and its associated film processing system and to compare systems.

Table 3

Comparison of equipment deficiencies

Deficiency	Number of units	
	Initial survey	1978
Inadequate collimation	25	0
Exposure cord too short	25	1
Insufficient filtration	23	0
Target-skin distance less than 7 inches	14	0
Timer not deadman	11	0
Equipment not grounded	10	0
Tube head unstable	6	3
Timer not terminating at elapse of set time	1	0
Total	115	4

Table 4 lists the exposures, divided into kilovoltage groups, and types of position-indicating devices on the equipment. This shows that for the low kilovoltage equipment, the average exposure was 167 microcoulomb per kg (648 milliroentgens), whereas for units operating at 60 kVp or higher, the exposure averaged 65 $\mu\text{C/kg}$ (250 mR). The exposures for mechanical and electric or electronic timers were also compared, and this showed that the average for the 14 mechanical timers was 176 $\mu\text{C/kg}$ (603 mR) and 68 $\mu\text{C/kg}$ (262 mR) for the newer timers. In general, the older mechanical timers were fitted on the lower kVp units.

A comparison of the average exposure for bite-wing films from the first survey with those measured in 1978 shows a reduction from 237 $\mu\text{C/kg}$ (920 mR) to 83 $\mu\text{C/kg}$ (322 mR). There were several reasons for this dramatic reduction. In the recent inspections, no equipment was found which was in need of additional filtration

and no beams exceeded 7 cm (2.75") in diameter at the end of the position-indicating devices, whereas in 1969 about 25 per cent of units had insufficient filtration and the same percentage had beams of an excessive size. In addition, ultra-fast speed film had completely replaced medium-speed film, which had been encountered earlier.

The comparison of the two groups of surveys of equipment has drawn attention to two equipment items which are of importance: (1) the use of dental x-ray units which will not operate at 60 kVp or more and all units with mechanical timers should be prohibited; and (2) the use of long position indicating devices should be encouraged.

One of the most marked changes noted recently was in the processing of dental films. In 1969, no automatic processors were seen but in 1978, 32 were in use in the 56 separate facilities. In general, the use of automatic dental film processors has brought about an improvement in processing techniques, although improperly operated automatic units, resulting in poor radiographs, are occasionally seen. Where films are still processed manually,

eight premises were found where there was no thermometer, three with no timers and one with light leaking into the darkroom. One dentist still regularly holds films in patients' mouths during x-ray examinations, and 24 premises were seen where patients were asked to hold films with their fingers. Where dentists or technicians are discovering routinely holding films during examination, the Branch believes it is important enough to send a strongly-worded letter to them and also to their associations.

During the first surveys, dentists were encouraged to use the personnel dosimetry service offered by The Radiation Protection Bureau. The Alberta Regulations now make this mandatory for most x-ray machine operators. However, in the case of dental installations, the occupational radiation doses are too low to justify this. The Radiation Protection Bureau has indicated that the average annual whole-body occupational radiation dose for Alberta dentists in 1978 was 30 μ Sv (3 mrem) and for dental assistants it was 10 μ Sv (1 mrem).

Table 4
1978 survey: Comparison of bite-wing exposures for different kilovoltage groups and position indicating device types

kVp Range	RADIATION EXPOSURE μ C/kg (mR) (Number of Units)				
	POSITION-INDICATING DEVICE TYPE				
	Short Open	Short Pointed	Long Open	Long Pointed	Average
50 — 59	210, (817) (3)	181, (703) (11)	96, (372) (4)		167, (648) (18)
60 — 69	92, (356) (5)	108, (420) (5)	129, (500) (2)	19, (75) (1)	88, (342) (13)
70 — 79	62, (240) (10)	56, (217) (3)	41, (160) (3)		57, (220) (16)
80 — 90	63, (243) (40)	71, (275) (7)	36, (140) (6)		61, (236) (53)
60 — 90					65, (250) (82)
50 — 90					83, (322) (100)

SUMMARY

A comparison was made between groups of dental x-ray equipment surveyed in Alberta in 1969 and 1978. The main findings were as follows: (1) About half of the x-ray machines seen in the first survey were over 10 years old, but in the second group only 14 per cent of units were this age; (2) Two-thirds of the first group of machines had one or more serious defects, but in the second group of inspections, although a handful of minor problems were seen, no major faults were encountered; (3) In 1969, the annual average exposure for a bite-wing film was 237 $\mu\text{C/kg}$ (920 mR), whereas by 1978 this had been reduced to 83 $\mu\text{C/kg}$ (322 mR); (4) Where 50-60 kilovoltage units were in use, the average exposure for a bite-wing film was 167 $\mu\text{C/kg}$ (648 mR) but for higher kV units averaged 64 $\mu\text{C/kg}$ (250 mR); and (5) Where mechanical timers were in use in 1978, the average exposure was 176 $\mu\text{C/kg}$ (683 mR), but with electric timers this was 67 $\mu\text{C/kg}$ (262 mR).

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soulagement temporaire



des malaise "d'ajustement" des dentiers

Entre l'insertion initiale du dentier et les corrections subséquentes, même les prothèses les mieux ajustées peuvent causer des douleurs et irriter les gencives. Ora-jel/d peut soulager ces malaises désagréables.

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Prothèse papillon et utilisation d'un agent liant dans la fixation de celle-ci

J.M. Monat, DDS
Montréal, Québec

L'utilisation des agents liants devrait occuper une plus grande place dans la part des traitements de la dentisterie des années 80. Une des applications pratique est la prothèse papillon.

DÉFINITION

La prothèse papillon est une prothèse partielle fixe souvent fabriquée en alliage chrome-cobalt en vue de remplacer une centrale ou une latérale; son nom vient du fait que le dessin sur papier de ce point fixe représente la forme d'un papillon.



vue buccale



vue linguale

INDICATIONS

La prothèse papillon est le traitement de choix pour remplacer une latérale ou une centrale manquante en vue d'éviter soit la prothèse partielle amovible à cause d'un encombrement ou soit le pont fixe traditionnel à cause de la mutilation des dents et de son coût élevé.

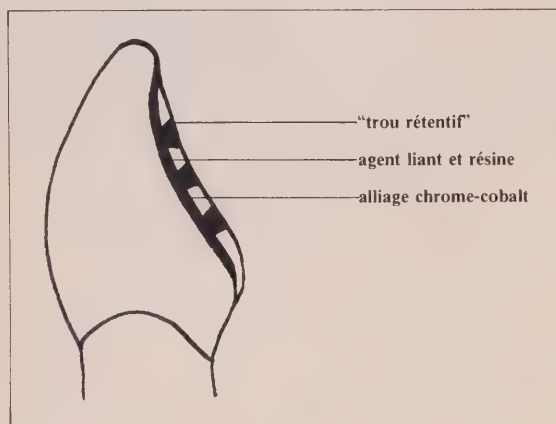
Le succès de la prothèse papillon repose à la fois sur l'occlusion et sur le nombre de dents à remplacer. L'occlusion en elle-même ne doit en aucun temps présenter des problèmes d'attrition pathologique,¹ bruxisme antérieur ou d'usure anormale des surfaces incisives et linguales. Toutefois, il faut quand même prévoir une épaisseur d'environ 3/10 mm. de métal lors de la mise en bouche. Ce genre de pièce de prothèse n'est actuellement conçue que dans le but de remplacer une centrale ou une latérale manquante. Dans l'éventualité où on aurait 2 dents à remplacer il faut alors doubler le nombre d'appuis.

L'instrumentation et la technique utilisée sont simples et le nombre de visites requises depuis l'examen jusqu'à l'immobilisation finale peuvent être réduites à deux ou trois.

PROCÉDURE

La première visite consiste en l'examen clinique et radiologique des tissus de support.² Il faut nettoyer les dents, spécialement les surfaces sur lesquelles les ailes de la prothèse viendront s'appuyer. Un petit appui lingual pourra également être préparé avec une fraise ronde no. 6 en vue d'éliminer ou d'adoucir le sillon lingual des incisives supérieures.³ Les chances de succès à long terme seront augmentées si l'empreinte est prise avec un porte empreinte individuel. Il faut évidemment choisir la bonne couleur de la dent à remplacer. Quant à la rédaction de la prescription, tout laboratoire dentaire devrait maintenant être en mesure de comprendre le terme de "prothèse papillon" et de la fabriquer à un coût devant normalement se situer à environ 50% du coût d'une pièce de métal coulée vitallium et finie acrylique sans attachement de précision ou semi précision.^{4,5}

La deuxième et dernière visite vise à mettre en bouche la pièce de prothèse papillon. La technique consiste d'abord à frotter la surface linguale des dents adjacentes à la dent manquante avec une boulette de coton imbibée mordant durant au moins une minute afin de rendre bien rugueuse la surface de l'émail.⁶ On utilise ensuite l'agent liant avec une résine ou un composite comme ciment en vue d'immobiliser la prothèse en bouche. Une fois le matériau esthétique durci, on enlève les excès et on vérifiera ensuite l'occlusion avant de donner congé au patient.



DISCUSSION

La prothèse papillon est actuellement plus esthétique que fonctionnelle car les tests d'endurance et de résistance aux forces de la mastication ne sont pas complétés. Elle est peu encombrante si on la compare à une pièce de prothèse amovible et elle a l'avantage de ne pas avoir à détruire trop d'émail sain. Lorsqu'on la compare au pont fixe traditionnel cette nouvelle forme de prothèse tirera son utilisation optimum chez l'enfant et chez l'adolescent.

CONCLUSION

Pour le patient, l'avantage de cette pièce de prothèse est une économie d'argent et de temps à la chaise. Pour le dentiste, l'avantage réside dans la facilité de la technique de préparation en comparaison au pont fixe traditionnel. Quant à la technique de l'immobilisation de celle-ci, elle diffère des méthodes conventionnelles de cimentation.

RÉSUMÉ

Actuellement la prothèse papillon trouvera sa plus grande utilité dans le remplacement d'une seule dent en vue d'améliorer au maximum l'esthétique en utilisant l'alliage chrome-cobalt comme métal de support ainsi qu'un agent liant pour immobiliser la prothèse.

REFERENCES

- 1 Mezl, Z., *Abrégé de Pathologie Dentaire*, 2e édition, Montréal, Les Presses de l'Université de Montréal 1977 et Masson de Paris.
- 2 Miller, E., *Removable Partial Prosthodontics*, 1st edition in 72 Baltimore, reprinted 1978.
- 3 Krol, A.J., *Removable Partial Denture Design*, 1st edition, San Francisco, University Press, 1976.
- 4 Laboratoire D. Morriset Inc., 695 est Boul Charest, Québec.
- 5 Ipco Company, 444 J.F. Kennedy Dr. North, Bloomfield, N.-J.
- 6 American Dental Association, *Guide to Dental Materials and Devices*, 8th edition, Chicago, 1976-8.

Announcements

CANADA

Canadian Dental Association, 1981 National Convention, Calgary, Alberta, August 30-September 2, 1981. Contact: Dr. R.H. Headley, 7811 Elbow Drive S.W., Calgary, Alta. T2V 1K3.

April/avril

Journées Dentaires du Québec, Queen Elizabeth Hotel, Montreal, Quebec, April 26-30, 1981. Contact: Dr. Morton R. Lang, Journées Dentaires du Québec, 801 Sherbrooke Street East, Suite 303, Montreal, Que. H2L 1K7. Tel: (514) 481-0397.

May/mai

Canadian Radiation Protection Association's Second Annual Meeting, Government Conference Centre, Ottawa, Ontario, May 5-6, 1981. For Those interested in presenting papers, the deadline date for abstracts is February 15, 1981. Contact: D. Grogan, Chairman, Local Arrangements Committee, Radiation Protection Bureau, Health & Welfare Canada, Brookfield Road, Ottawa, Ont. K1A 1C1. Phone: (613) 998-4751.

College of Dental Surgeons of British Columbia Convention, Hotel Vancouver, Vancouver, B.C., May 19-22, 1981. Contact: Venue West Executive Services Ltd., 1704 — 1200 Alberni Street, Vancouver, B.C. V6E 1A6.

29th Westcoast Dental Radiology Workshop, Empress Hotel, Victoria, B.C., May 21-24, 1981. Contact: Dr. Colin Price, Department of Oral Medicine, University of British Columbia, Vancouver, B.C. V6T 1Z7.

Ontario Dental Association 114th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 24-27, 1981. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ont. M5R 2P1.

The 29th Annual Westcoast Dental Radiology Workshop, Empress Hotel, Victoria, British Columbia, May 21-24, 1981. Contact: Dr. Colin Price, Dept. of Oral Medicine, University of British

Columbia, 2199 Wesbrook Mall, Vancouver, B.C. V6T 1Z7.

June/juin

Fourth Canadian Congress of Dentistry for Children, Harbour Castle Hotel, Toronto, Ontario, June 5-7, 1981. Contact: Dr. Keith Titley, 48 Cleveland Street, Toronto, Ont. M4S 2W2.

The Association of Canadian Faculties of Dentistry L'Association des facultés dentaires du Canada House of Delegates will meet at the Convention Centre, University of British Columbia, June 16-18, 1981. The Research, Education and Executive will meet June 14-15. Contact: Dr. J. Ton-zetich, 2075 Wesbrook Mall, University of British Columbia, Vancouver, B.C. V6T 1W5.

Yukon Dental Association's 1981 Convention, Kluane National Park, Yukon Territory, June 26-28, 1981. Contact: Dr. John Stern, 309 Wood Street, Whitehorse, Yukon Y1A 2E7.

Atlantic Provinces Dental Convention, Moncton, New Brunswick, June 28 to July 1, 1981, contact: Dr. Michael J. Crompton, 567 St. George Blvd., Moncton, N.B. E1E 2B9.

Convention Dentaire des Provinces de l'Atlantique, Moncton, N.-B., 28 juin au 1 juillet 1981. Pour plus de renseignements: Docteur Michael J. Crompton, 567 boul St. George, Moncton, N.-B., E1E 2B9.

July/juillet

Western Canada Dental Society Convention, Winnipeg Inn, Winnipeg, Manitoba, July 1-4, 1981. Contact: Dr. Ted Derrett, Chairman, 1981 W.C.D.S. Convention, 300-296 Kennedy Street, Winnipeg, Man. R3B 2M6.

August/août

Canadian Academy of Prosthodontics Annual Meeting, Calgary, Alberta, August 28-29, 1981. Contact: Dr. B.M. Jackson, 22-22 Water Street S., Kitchener, Ont. N2G 4K4.

November/novembre

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto, Ontario, November 26, 1981. Contact: Academy of Dentistry, 234 St. George Street, Toronto, Ont. M5R 2P2.

International

May/mai

4th International Congress on Cleft Palate and Related Craniofacial Anomalies, Acapulco, Mexico, May 3-8, 1981. Deadline for scientific contributions and advance registration at reduced fees is August 31, 1980. Contact: General Secretariat, 4th International Congress on Cleft Palate, Apdo. Postal 18-986, Mexico 18, D.F. — Mexico.

An NIDR-supported Symposium on Host Bacterial Interactions in Periodontal Diseases, Buffalo, New York, May 4-6, 1981. Contact: Dr. R.J. Genco, Chairman, Dept. of Oral Biology, State University of New York at Buffalo, 4510 Main Street, Buffalo, NY 14226, U.S.A.

Alabama Implant Congress VII, Birmingham, Alabama, May 7-10, 1981. Contact: Alabama Implant Study Group, P.O. Box 4682, Birmingham, Ala. 35206, U.S.A.

A National Institutes of Health Consensus Development Conference on Surgical Therapy for Periodontitis, sponsored by the NIDR, assisted by the Office for Medical Applications of Research, Bethesda, Maryland, U.S.A., May 13-14, 1981. Contact: Ms. Nancy McManus, Prospect Associates, Suite 220, 11325 Seven Locks Road, Potomac, Maryland 20854, U.S.A., Phone: (301) 983-0535.

The American Academy of Implant Dentistry's 29th Annual Active Membership Examination, 211 East Chicago Avenue, A.D.A. Headquarters Building, Chicago, Illinois, U.S.A., May 15-16, 1981. Contact: A.A.I.A., 515 Washington Street, Abington, Massachusetts 02351, U.S.A.

Marketplace

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Dr. Ian R. Hamilton
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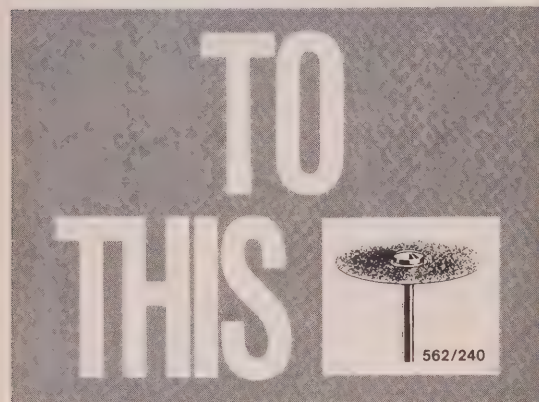
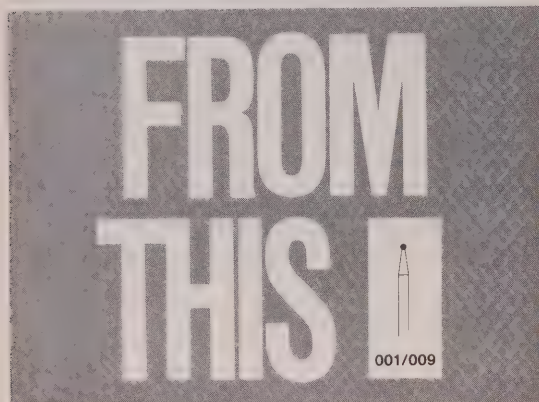
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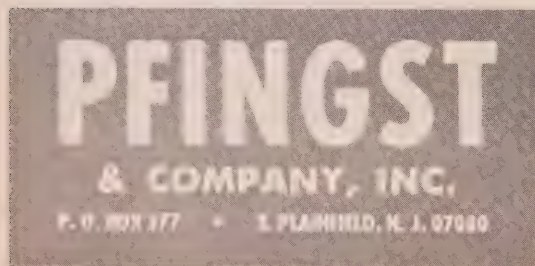


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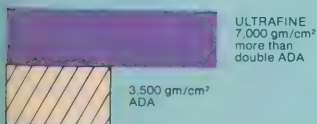
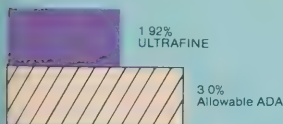
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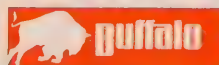
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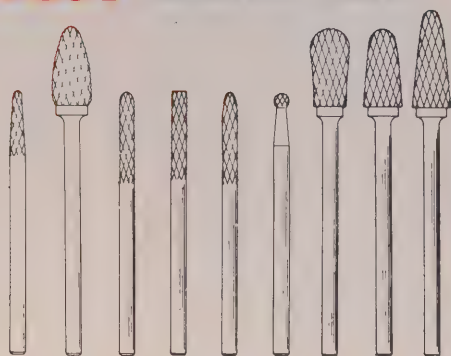
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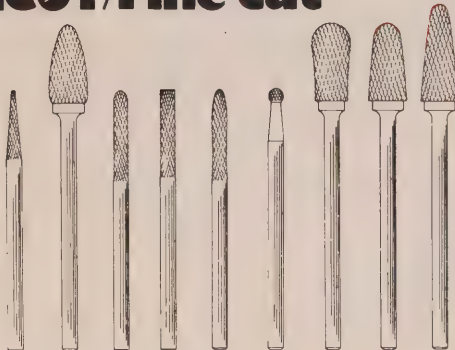
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Temporomandibular joint problems

"... a worthwhile addition to the library of any dentist interested in this subject."

Building Assertive Skills

"The authors have tried to think of everything."

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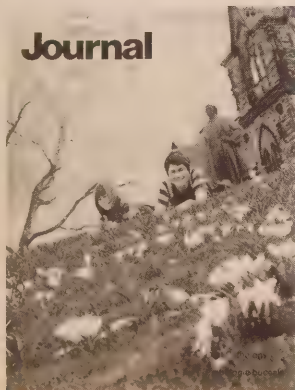
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Oral
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Comité ad hoc

Suite à l'assemblée intérimaire du Conseil d'administration en mars, on a créé un comité ad hoc pour étudier les façons dont l'ADC pourrait mieux servir le public et la profession.

Musées dentaires

L'Université de Montréal possède un nouveau musée dentaire qui jouit de nombreux avantages que les autres musées semblables ne connaissent pas.

Congrès

Le Dr Gil Utas vous invite au Congrès annuel de l'ADC à Calgary.

Publications

- 300 **Efficacy of Treatment Procedures in Periodontics**
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"... une addition valable à la bibliothèque de tout dentiste qui s'intéresse à ce sujet."

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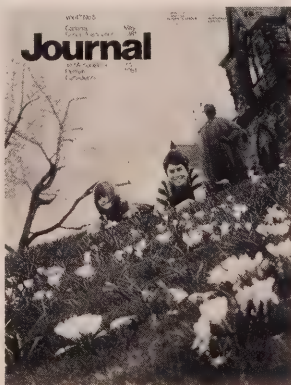
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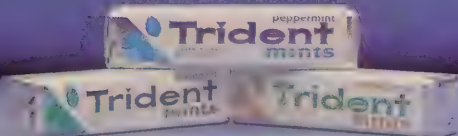
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ORAL PATHOLOGY

The scientific articles in this issue are devoted to oral pathology and, since 1981 marks the first meeting of the recently formed International Association of Oral Pathologists, it would appear highly appropriate at this time to review advances which have been made in this discipline. Allowing for an appropriate time lag, many aspects in the progress of oral pathology parallel events which have helped to mould the pattern of present day practice in oral surgery. Indeed, it will be seen that they not only parallel but to some degree have resulted from them.

Just as oral surgery in the early 50s was mainly concerned with exodontia, so oral pathology at this time was essentially directed to diseases of the tooth tissues. By this same token the histopathological diagnosis of oral disease in its wider sense was left almost exclusively to the medical profession, mainly through default. Since then, the scope and standards of oral pathology have increased significantly and to a large degree these changes have occurred in response to the expanded horizons of oral surgery, and reflect the wider origins of the biopsy material which the present day oral pathologist has to report on.

Modern oral pathology training programs can often offer the interested individual a satisfying extension of the partially restricted horizons which sometimes can appear so frustrating to the practitioner of general dentistry. Specialty certification involves a minimum of two years of post-graduate study, a significant portion of which is spent in the hospital environment and frequently involves courses and learning experiences taken in common with residents in medical pathology.

It is, however, in the clinical practice of dentistry that the most significant advances in oral pathology are taking place. Some oral pathologists engage in "applied" oral pathology and, along with specialist practitioners in oral medicine, they run referral clinics devoted to diagnosis and management of the more unusual conditions which may be seen by the practising dentist.

Patients who attend these clinics include those with complaints such as atypical facial pain, and diseases of the mucosa and bone, as well as purely dental problems. These clinics are frequently run in co-operation with medical specialists in dermatology, neurology, or ENT surgery and, since patients frequently derive a very real benefit from this unique interdisciplinary combination, it behooves any dental practitioner in the referral area to be aware both of their existence and potential.

The majority of oral pathologists however devote most

of their time to so called "bench" pathology. This involves the histopathological diagnosis of surgical biopsy specimens. Some services also include oral cytology, but in recent years there has been increasing tendency to reserve cytological examination for diagnosis of diseases in those tissues which do not readily lend themselves to direct inspection (eg. the uterine cervix). Since suspicious lesions in the mouth are often readily accessible, biopsy is usually the special examination of choice since it carries with it a greatly enhanced degree of accuracy when compared with cytology.

Perhaps the single most important benefit deriving to dentistry from modern oral pathology practice is the growing provision of diagnostic oral pathology biopsy services.

Support of this kind is essential if an optimum level of practice is to be achieved, particularly in the field of oral surgery. Despite a high level of competence in their specialty, the average general pathologist frequently lacks depth of understanding of the normal, as well as of those diseases which may occur in the dental tissues. As a result, their diagnostic expertise in this area may not be able to match that of the referring practitioner who has sent the biopsy for examination and this may impose a level of limitation on the success or even the adequacy of any subsequent therapy.

Legal regulations governing the practice of dentistry usually define the profession's responsibility as being limited to the diagnosis and treatment of intra-oral conditions. It was these terms of reference which originally permitted oral surgeons to expand their horizons in competition with plastic and ENT surgery. If oral pathologists are now to provide equally wide based diagnostic support, it is essential that they in turn are supported in their efforts to stake an equivalent claim for specialty recognition within the general field of pathology practice. In short, the profession must endeavour to establish the general principle that any tissue which is removed from the mouth by a dentist, for reasons which legitimately lie within the scope of dentistry, should be seen and reported on by an oral pathologist wherever this is practical. It is only when oral pathology biopsy services are made freely available to dental practitioners in every province that we will indeed be able to say that "oral pathology is alive and well ... and flourishing in Canada".

Dr. J.D. Spouge
Professor of Oral Medicine
Faculty of Dentistry
University of British Columbia

LA PATHOLOGIE BUCCALE

Les articles scientifiques de ce numéro portent sur la pathologie buccale et, comme 1981 est l'année de la première assemblée de l'Association internationale des pathologistes buccaux créée récemment, il semble grandement opportun en ce moment de réviser les progrès accomplis dans cette discipline. Compte tenu d'un retard raisonnable, les progrès réalisés en pathologie buccale sont, sous plusieurs aspects, parallèles aux événements qui ont contribué à déterminer ce qui se pratique actuellement en chirurgie buccale. En effet, on pourra même voir que ces progrès non seulement sont parallèles à ces événements, mais qu'ils en découlent jusqu'à un certain point.

De même que la chirurgie buccale était, au début des années '50, préoccupée uniquement de l'exodontie, la pathologie buccale d'alors s'occupait principalement des maladies relatives aux tissus dentaires. Également, le diagnostic histopathologique de la maladie buccale, dans un sens plus large, était, principalement par défaut, laissé presque exclusivement à la profession médicale. Depuis lors, la portée et les normes de la pathologie buccale ont considérablement changé et, pour une large part, ces changements se sont produits parce que la chirurgie buccale a repoussé ses limites, reconnaissant ainsi que sont plus vastes les origines du matériel de biopsie sur lequel le pathologiste buccal d'aujourd'hui doit se pencher.

Présentement, les programmes de formation en pathologie buccale offrent souvent aux intéressés un prolongement satisfaisant aux horizons partiellement restreints qui, parfois, semblent si frustrants pour le praticien dentaire général. Un diplôme de spécialisation demande au moins deux années d'études supérieures, dont une grande partie est passée à l'hôpital et comprend la plupart du temps des cours et des leçons expérimentales pris avec les internes en pathologie médicale.

Toutefois les progrès les plus marquants touchant la pathologie buccale ont lieu dans les pratiques dentaires. Certains pathologistes buccaux exercent la pathologie buccale "appliquée" et, de concert avec des spécialistes en médecine buccale, ils gèrent des cliniques de consultation où ils donnent des diagnostics et s'occupent des cas inhabituels qui peuvent être traités par un dentiste. Les patients qui visitent ces cliniques sont ceux qui, par exemple, souffrent de douleurs faciales atypiques, de maladies des muqueuses et des os ainsi que de simples maux de dents. Souvent, ces cliniques réunissent des spécialistes en dermatologie, en neurologie ou en chirurgie oto-rhino-laryngologique. Comme cette collaboration interdisciplinaire est bénéfique pour de nombreux patients, il appartient à tout praticien dentaire qui veut renvoyer ses clients à des spécialistes de savoir que ces groupes existent et ce qu'ils peuvent faire.

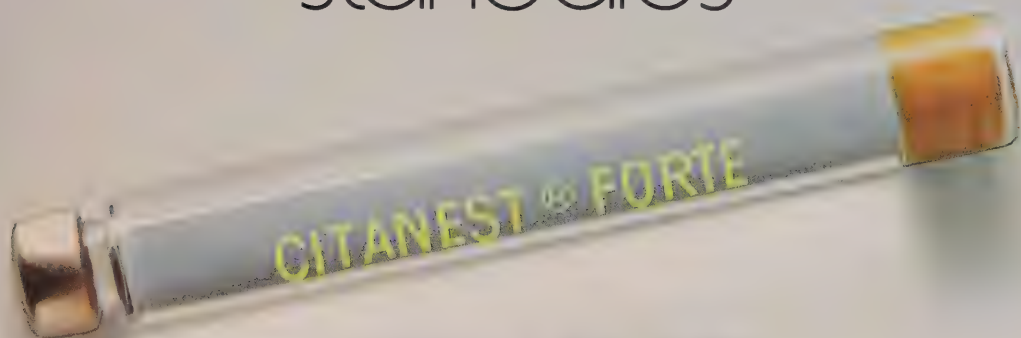
La majorité des pathologistes buccaux, cependant, consacrent la plupart de leur temps à la pathologie dite "de repère" qui comprend le diagnostic histopathologique des tissus prélevés lors des opérations pour fin de biopsie. Par ailleurs, certains services touchent à la cytologie buccale, mais il y a eu, au cours des dernières années, une tendance accrue à réserver l'examen cytologique au diagnostic des maladies affectant les tissus qui ne se prêtent pas facilement à un examen direct (par exemple, le col de l'utérus). Vu que les lésions suspectes dans la bouche sont pour la plupart accessibles, la biopsie constitue un examen spécial qu'on choisit volontiers parce qu'il permet, comparé à la cytologie, un très haut degré de précision.

Sans doute, l'avantage le plus important que la pathologie buccale procure à la dentisterie est le nombre croissant de services de biopsie qu'elle rend touchant les diagnostics. Un tel appui est essentiel si on désire atteindre un niveau optimal, surtout dans le domaine de la chirurgie buccale. Malgré un haut degré de compétence dans sa spécialité, le pathologiste général moyen ne possède pas souvent les connaissances requises pour comprendre l'état normal des tissus dentaires ainsi que les maladies qui peuvent les affecter. Il s'ensuit que son diagnostic ne peut égaler celui du spécialiste qui a recours à la biopsie, ce qui limite les chances de succès de son traitement qui peut même être inapproprié.

Les lois touchant la pratique dentaire limitent habituellement les responsabilités de la profession au diagnostic et au traitement des maladies intra-buccales. Ce sont ces dispositions qui, à l'origine, ont permis aux chirurgiens buccaux d'étendre leurs horizons de manière à pouvoir rivaliser avec la chirurgie esthétique et la chirurgie oto-rhino-laryngologique. Si on peut maintenant demander aux pathologistes buccaux d'appuyer les diagnostics sur une base générale, il est essentiel qu'ils soient, en retour, appuyés dans les risques qu'ils prennent en revendiquant que leur spécialité soit reconnue dans le domaine de la pathologie générale. Bref, la profession doit s'efforcer d'établir comme principe normal que tout tissu prélevé par un dentiste dans la bouche d'un patient pour des raisons qui, légitimement, relèvent de la dentisterie, doit, si possible, être examiné par un pathologiste buccal pour fin de rapport. C'est seulement lorsque les services de biopsie rendus par la pathologie buccale seront gratuitement disponibles pour les praticiens dentaires de chaque province que nous pourrons dire en effet que "la pathologie buccale se porte bien... et est prospère au Canada."

Le Dr J.D. Spouge,
professeur de médecine buccale
à la Faculté de Dentisterie
de l'Université de la Colombie-Britannique.

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1. Zacherl, W. A., "Clinical Evaluation of a Sodium Fluoride-Silica Abrasive Dentifrice." *Journal of Dental Research*, Vol. 60, Special Issue A, page 577, March, 1981.
2. Beiswanger, B. B., Gish, C. W. and Mallatt, M. E., "Effect of a Sodium Fluoride-Silica Abrasive Dentifrice Upon Caries." *Journal of Dental Research*, Vol. 60, Special Issue A, page 577, March, 1981.

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Wild scheme

So it is an "exciting and super idea" (according to Dr. David Tyler of McGill, in C.D.A. Journal March 1981), that a microdot, engraved with your social insurance number, may now be buried under any dental restoration in your head, entombed forever as an identification of your uniqueness among the sons of men.

I suppose it is inevitable that, because of the narrow specialization of most education today, such people as Doctors Tyler, Ambrose and Samis could naively believe that their wild and woolly forensic scheme could possibly gain general acceptance!

They seem to be so consumed by the techniques of branding people with numbers, and so overwhelmed by the novelty of "minimizing trauma to the relatives of accident victims", that they seem to forget that we are all humans, not cattle.

Who is going to insert these ceramic microdots under the pulpal floor of my Class 3 gold foil? Am I going to allow it? Will dentists be the retailers, and the government the wholesaler of these unique identifiers?

"Mrs. Smith, we happen to have here a ceramic microdot with your number on it, fancy that! The government is going to pay me to park it under this beautiful inlay; so that, even if you're incinerated, you won't ever get lost. That O.K. Mrs. Smith?"

"By the way, that husband of yours, who has never had a filling, had better get in here quick and get one, before the government inspector finds out that he doesn't have even one Identifi-

Dot in his head. There's a penalty you know!"

Joking aside, I'm really concerned for these purveyors of big brother schemes. No wonder dentists are often looked upon as mere tooth plumbers.

Best they look up Revelations (in a best-seller read by millions): "And it came to pass that The Beast force everyone both great and small, rich and poor, free and bond, to receive the Mark in their right maxillary first molars, and ruled that no one might engage in commerce, or ride an airplane, unless his social insurance number was engraved on him with indelible ceramic microdots." (Freely translated into Modern English, from the St. James version.)

Some regard this passage as a prediction of the future, others that it is a warning to stay away from de-humanizing schemes, lest you too become a machine.

D.C.T. Bullen, DMD, DDPH
Comox, B.C.

Mystery

I was interested in the picture of the dental clinic which you published in your journal in March, 1981. While I cannot identify it I can perhaps shed some light bringing us one step closer to its identification.

Firstly, one can date it with reasonable accuracy. The picture shows what I believe to be early Columbia chairs. The early McGill clinic in 1910 was equipped with similar chairs but they had modern fountain cuspidors. The chairs shown were not so equipped and, therefore, the picture was probably taken about the year 1900.

If this is so, there were only two dental schools in Canada at that time; The Royal College of Dental Surgeons of Ontario and the Dental College of

the Province of Quebec. It is certainly not a picture of the Quebec school and I doubt that it is of the Ontario one.

In my mind it is surely the picture of a school in the United States. The earliest of these were the Baltimore College of Dental Surgery established in 1840, the Harvard University School in Boston established in 1867 followed by the California State University School.

I believe that this is a picture of the Harvard University School taken about the year 1900. The archives of Harvard University could surely verify this.

Mervyn A. Rogers, D.D.S.
Montreal, Quebec

New pamphlet

Thank you for the pamphlet on careers in dentistry. I think it is an excellent job, concise, and will be useful in recruitment — I do not know how the profession is going to view your attempts at recruitment, however! An excellent job well done.

A.R. Ten Cate
Dean, University of Toronto

Thanks noted

Thank you for your nice note about the pamphlet "Choosing A Career — Dentistry".

We get numerous requests for such a pamphlet and it was felt that our target for recruitment is the "cream of the crop" and that is what we are aiming for.

Ann Hammell (Miss)
Director of Communications

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Kerr, the name dentists have depended upon for more than 90 years, introduces its newest research discovery—LIFE calcium hydroxide pulp capping material.

We urge you to compare it to the pulp capping material you are now using. Life works easily in your hands because you can control its flow.

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- Life pulp capping material has controlled flow—even

on maxillary teeth. It adheres to your applicator and flows easily and evenly into the preparation's floor and walls.

- Kerr's Life material has 60% more compressive strength than its leading competitor to withstand greater packing pressures.
- Once in the preparation, the Life material can be trimmed without becoming dislodged.
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- Life pulp capping material promotes formation of secondary tubular dentin.*

Evaluate this newest Kerr product in your own office.

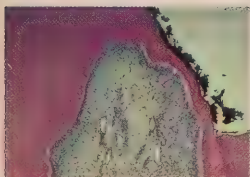
*Clinicals available on histological evaluations of Life pulp capping material:

"Histological Evaluation of Two Calcium Hydroxide Compounds on Inflamed Pulp," *Jour. Dent. Res.* Vol. 56, p. A63, I.A.D.R. Abstracts #83, 1977.
R. J. Heys, D. R. Heys, C. F. Cox and J. K. Avery, Copenhagen, Denmark.

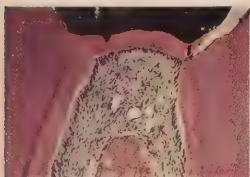
"Theories of Mechanisms of Dentine Bridge Formation. Symposium I: Developments in Pulp Capping," 1978. *Jour. Dent. Res.* Vol. 57, Special Issue A, p. 14, 1978. J. K. Avery, Washington, D.C.

"Histological Evaluation of Three Calcium Hydroxide Materials on the Dental Pulp," *Jour. Dent. Res.* Vol. 58, p. 161, I.A.D.R. Abstracts #273, 1979. D. R. Heys, C. F. Cox, R. J. Heys, J. K. Avery and D. S. Strachan. New Orleans, Louisiana.

Patent pending.



Life pulp capping material—5-week exposure—The thin reparative dentin bridge is present adjacent to the medicament. Some sectioning artifact is present beneath the bridge.



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In the News



Conference on Priorities participants include those visible from left to right; Dr. R. Coulombe, President, National Dental Examining Board of Canada; Dr. P.R. Crawford, CDA Board of Governors; Dr. E.W. Zak, President, College of Dental Surgeons of Saskatchewan; Mr. R.H. McIntyre, Secretary-Treasurer, Manitoba Dental Association; Dr. A.E. MacLeod, Chairman of the Editorial Board and the Council on Information Services; Dr. J.G. Thompson, Executive Director, Registrar, New Brunswick Dental Society; Dr. R.D. Wenn, Secretary-Treasurer/Registrar, Dental Association of Prince Edward Island and Mr. D.V. Pamenter, Executive Director, Nova Scotia Dental Association.

Priorities workshop

A CDA Executive Council review of the two day workshop on priorities noted that many of the recommendations had already been implemented, others are being actioned and still others have been referred to relevant councils for investigation and recommendation to the Board.

More than 40 dentists, and provincial and national staff participated in a workshop on priorities March 4 and 5 at Chateau Montebello, Québec at the request of the presidents, chief executive officers and registrars of the corporate bodies.

The chairman was Dr. Nick Mancini and the workshop facilitator Dr. K. Gordon, Director, Centre for Long Term Care, Minneapolis, Minnesota. Dr. Gordon explained the Delphi system whereby small workshop discussion groups reported back to the entire meeting to determine the topics and when the seven topics were identified, each workshop group was assigned a topic and through a repeated series of work-

shop discussions and reportings to the main body seeking their input, the workshops sifted the material until final recommendations were defined.

The seven topics include: manpower; accreditation; the Resource Centre including a data bank and how to react to information and CDA's role in continuing education; government relations including taxation; public relations and communications including access to dental care; auxiliaries including portability and alternate delivery systems; and member services including CDA'S credibility to its members, government and the public; insurance and internal politics.

RCDS News

Two dental hygienists have been elected for the first time as official observers to the Council of the College for 1981-82.

Jocelyn A. Pearce and Lynda Mickelson are both graduates of the University of Toronto. Pearce represents the Toronto area, while Mickelson represents the rest of the province.

RCDC Exams

Those wishing to become members of the Royal College of Dentists of Canada (RCDC) under the new membership classification will have a chance to qualify on June 19 and 20.

Those dates have been set aside by the College when Part I of the RCDC Fellowship examinations will be held simultaneously in Edmonton and Toronto.

In addition to the regular two three-hour written examination papers, an oral component is being included which will evaluate the practical clinical knowledge of candidates.

Both papers will be written on the 19th, with the oral component held the following day. The latter will be conducted using identical case material on which to base questions thus ensuring the same standard of examination in both centres.

The RCDC Council established this new classification of "Member" in the College in June of 1980. A review of this new system will be undertaken next fall.

Successful completion of the Part I examination will continue to be the qualification for the National Dental Examining Board/RCDC specialist certificate.

The College now offers membership without examination to dental specialists who have passed the Part I examination for Fellowship, specialists who hold the NDEB/RCDC portability certificate and all specialists who have held provincial certification for a minimum period of eight years as of January 1, 1981.

Those wishing more information are asked to contact College Registrar Dr. John E. Speck.

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See prescribing information on page 2

motrin (ibuprofen)

Product Information

Action: Ibuprofen has demonstrated anti-inflammatory, analgesic and antipyretic activity in animal studies designed to specifically demonstrate these effects. Ibuprofen has no demonstrable glucocorticoid effect.

Following a single 200 mg dose of ibuprofen in humans, useful blood levels were demonstrable in 45 minutes and still present in six hours but at barely detectable levels. Peak levels occurred at approximately one hour after ingestion. Levels were lower when taken in conjunction with food.

Ibuprofen is rapidly metabolized and eliminated in the urine. The excretion of ibuprofen is virtually complete 24 hours after the last dose. The serum half-life of ibuprofen is 1.8 to 2 hours. There is no evidence of drug accumulation or enzyme induction.

Ibuprofen has been found to be less likely to cause gastro-intestinal bleeding in doses usually used than is acetylsalicylic acid.

Clinical trials in man have shown activity of a dose of 1200-1800 mg of ibuprofen daily to be similar to that of 3.6 grams of acetylsalicylic acid daily.

Indications and Clinical Uses: Motrin (ibuprofen) is indicated for the treatment of rheumatoid and osteoarthritis. Motrin is also indicated for the relief of mild to moderate pain, accompanied by inflammation, in conditions such as musculo-skeletal trauma and post-dental extraction. Motrin is also indicated for the relief of pain associated with dysmenorrhea.

Contraindications: Ibuprofen should not be used in patients who have previously exhibited hypersensitivity to it, or in individuals with the syndrome of nasal polyps, angioedema and bronchospasm, especially to acetylsalicylic acid or other nonsteroidal anti-inflammatory agents. (see WARNINGS).

Ibuprofen should not be used during pregnancy, in nursing mothers, or in pediatric patients, because its safety under these conditions has not been established.

Warnings: Anaphylactoid reactions have occurred in patients with known A.S.A. hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported in patients receiving ibuprofen. Peptic ulceration, perforation, or severe gastrointestinal bleeding can have a fatal outcome, and although few such reports have been received with ibuprofen, a causal and effect relationship has not been established. Ibuprofen should be given under close supervision to patients with a history of upper gastrointestinal tract disease.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in colour vision have been reported. If a patient develops such complaints while receiving ibuprofen, the drug should be discontinued and the patient should have an ophthalmologic examination.

Fluid retention and edema have been reported in association with ibuprofen; therefore, the drug should be used with caution in patients with a history of cardiac decompensation or renal disease.

Ibuprofen, like other nonsteroidal anti-inflammatory agents, can inhibit platelet aggregation but the effect is quantitatively less and of shorter duration than that seen with acetylsalicylic acid. Ibuprofen has been shown to prolong bleeding time (but within the normal range) in normal subjects. Because this prolonged bleeding effect may be exaggerated in patients with underlying hemostatic defects, ibuprofen should be used with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients on ibuprofen should be cautioned to report to their physicians signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

When ibuprofen is added to the treatment program of patients who have been on prolonged corticosteroid therapy, and it is decided to discontinue this therapy, the corticosteroid should be tapered slowly to avoid exacerbation of disease or adrenal insufficiency.

Aseptic meningitis has been reported in connection with ibuprofen therapy in patients with systemic lupus erythematosus. Such patients may also develop hypersensitivity reactions to ibuprofen such as fever, rash or abnormal liver function more often than those with other disorders. Caution should therefore be exercised when considering ibuprofen therapy for patients with systemic lupus erythematosus.

Drug Interactions

Coumarin-type anticoagulants - Several short-term controlled studies failed to show that ibuprofen significantly affected prothrombin times or a variety of other clotting factors when administered to individuals on coumarin-type anticoagulants. However, because bleeding has been reported when ibuprofen and other nonsteroidal anti-inflammatory agents have been administered to patients on coumarin-type anticoagulants, the physician should be cautious when administering ibuprofen to patients on anticoagulants.

A.S.A.: Animal studies show that A.S.A. given with non-steroidal anti-inflammatory agents including ibuprofen yields a net decrease in anti-inflammatory activity with lowered blood levels of the non-A.S.A. drug. Single dose bioavailability studies in normal volunteers have failed to show an effect of A.S.A. on ibuprofen blood levels. Correlative clinical studies have not been done.

Adverse Reactions: The following adverse reactions have been noted in patients treated with ibuprofen:

Note: Reactions listed below under Causal Relationship Unknown are those which occurred under circumstances where a causal relationship could not be established. However, in these rarely reported events, the possibility of a relationship to ibuprofen cannot be excluded.

Gastrointestinal: The adverse reactions most frequently seen with ibuprofen therapy involve the gastrointestinal system.

Incidence 3 to 9%: nausea, epigastric pain, heartburn
Incidence 1 to 3%: diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the gastrointestinal tract (bloating or flatulence).

Incidence less than 1%: gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, hepatitis, jaundice, abnormal liver function (SGOT, serum bilirubin and alkaline phosphatase).

Central Nervous System:

Incidence 3 to 9%: dizziness
Incidence 1 to 3%: headache, nervousness
Incidence less than 1%: depression, insomnia

Causal relationship unknown: paresthesias, hallucinations, dream abnormalities.

Dermatologic:

Incidence 3 to 9%: rash (including maculopapular type)
Incidence 1 to 3%: pruritis
Incidence less than 1%: vesiculobullous eruptions, urticaria, erythema multiforme

Causal relationship unknown: alopecia, Stevens-Johnson syndrome

Special Senses:

Incidence 1 to 3%: tinnitus
Incidence less than 1%: amblyopia (blurred and/or diminished vision, scotomata and/or changes in colour vision). Any patient with eye complaints during ibuprofen therapy should have an ophthalmologic examination (see PRECAUTIONS).

Causal relationship unknown: conjunctivitis, diplopia, optic neuritis

Metabolic:

Incidence 1 to 3%: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

Hematologic:

Incidence less than 1%: leukopenia and decreases in hemoglobin and hematocrit

Causal relationship unknown: hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes (e.g. purpura, epistaxis, hematoma, menorrhagia).

Cardiovascular:

Incidence less than 1%: congestive heart failure in patients with marginal cardiac function, elevated blood pressure

Causal relationship unknown: arrhythmias (sinus tachycardia, sinus bradycardia, palpitations).

Allergic:

Incidence less than 1%: anaphylaxis (see CONTRAINDICATIONS).

Causal relationship unknown: fever, serum sickness, lupus erythematosus syndrome

Endocrine:

Causal relationship unknown: gynecomastia, hypoglycemic reaction

Renal:

Causal relationship unknown: decreased creatinine clearance, polyuria, azotemia

Symptoms and Treatment of Overdosage: A nineteen month old child weighing 12 kg ingested from 2800 to 4000 mg and presented with apnea, cyanosis and responded only to painful stimuli. Oxygen and parenteral fluids were given and at 12 hours she appeared completely recovered. Two other children (10 kg each) ingested 1200 mg of ibuprofen each and there were no signs of acute intoxication or late sequelae. A 19 year old male who had ingested 8000 mg of ibuprofen reported dizziness, and nystagmus was noted. He recovered with no reported sequelae after parenteral hydration and three days' bed rest.

In cases of acute overdosage, the stomach should be emptied by vomiting or lavage, though little drug will likely be recovered if more than an hour has elapsed since ingestion. Because the drug is acidic and is excreted in the urine, it is theoretically beneficial to administer alkali and induce diuresis.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis: The initial daily dosage in adults is 1200 mg divided into 3 or 4 equal doses. Depending on the therapeutic response, the dose may be adjusted downward or upward. The daily dosage should not exceed 2400 mg.

Maintenance therapy, once maximum response is obtained, will range from 800 to 1200 mg per day.

Mild to moderate pain associated with inflammation, dysmenorrhea. 400 mg repeated as required every 4 to 6 hours. The daily dosage should not exceed 2400 mg.

Children: Due to the lack of clinical experience, ibuprofen is not indicated for use in children under 12 years of age.

Supplied: 200 mg (yellow), 300 mg (white), 400 mg (orange) sugar-coated tablets, 600 mg (peach) film-coated tablets in bottles of 100 and 1000.

Product monograph available on request.

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Memberships

The Canadian Dental Association is offering free active memberships to new dental school graduates. The free membership term extends from date of graduation until December 31, 1981 and is open to all CDA student members in good standing.

In most provinces, graduating students are invoiced by their provincial association for licensing fees, provincial membership fees and the CDA membership fee.

New graduates must apply in writing to the Canadian Dental Association, indicating name, address, year, faculty of graduation and the province where they have paid their fees. CDA will reimburse students for their half-year CDA membership fees after verification and payment by the provincial association.

For new graduates in Ontario and Quebec, where CDA membership is voluntary, students will not be invoiced for the half-year membership fees. These new graduates will automatically be considered paid and active members of CDA and receive all benefits until Dec. 31, 1981.

(For further information, contact the student representative at your dentistry faculty.)

Budget increased

In a move to strengthen research and development in Canada, Health and Welfare Minister Monique Bégin has announced a 22 per cent increase in the 1981-82 budget of the Medical Research Council.

The new budget will be \$100.2 million — with \$98.4 million devoted to the council's programs to support biomedical research in Canadian universities and associated hospitals.

The council plans to expand its support for research in areas of national concern, particularly in perinatology, reproductive physiology and gerontology.

Dental manpower sparks dialogue in profession

Dental manpower. Those are the two words which spark dialogue in the dental profession today. The present manpower situation is the result of a federal government policy decision taken more than 10 years ago to expand the number of dental faculties to meet what the government claimed was a manpower shortage. The Canadian Dental Association, in its original presentation to the Hall Commission in 1962, clearly demonstrated there was no need to expand dental faculties in Canada.

Hard data is available for assessment from: cost of practice, procedure frequency and procedure time surveys; government statistics relating to particular age groups such as children; information from third party carriers with regard to new age groups entering a plan and specific age groups with dental prepayment plans.

This hard data and other information are required if one is to determine the ideal patient load for each practitioner.

Hard data makes it clear that:

- without rapid change, incomes will decline, especially with present income levels tending to be static as a result of attrition in the number of patients and the inflationary spiral.
- younger dentists have been unable to build practices, especially over the last two years. Graduates are now looking to associateships, due to the high cost of practice and the need to test the waters.
- larger practices with a large number of auxiliaries are not as busy as they would like to be because of the sensitive problem generated by underutilization of auxiliaries.
- the degree of stagnation in fees charged, bankruptcies and the difficulty in establishing new practices confirms a busyness problem.
- children are presently receiving high quality care, which means

adult needs will differ in the future. For example, there will be fewer extractions and more periodontal and crown and bridge treatment. This new demand will receive more treatment time and directly affect the business factor.

- although migration is presently occurring from province to province, less of it will occur by 1984-85 now that new dental programs have been implemented in each province.

In a recent survey in Ontario, the public was generally satisfied with the degree of accessibility to the dentist while the waiting time was considerably shorter than most people expected. The survey pointed out that 33 per cent of the dentists and 72 per cent of the recent graduates in 1977 and 1978 were not busy enough, while the profession confirmed there was very little waiting time.

Based on 1979 data in Ontario, 96 to 98 per cent of the recent graduates in dental hygiene were employed; 90 per cent searched for a month or less to find employment and recent graduates are working an average of 30.4 hours a week.

It thus becomes imperative that studies be implemented to consider the supply and demand for care assuming 1) the same number of dentists and fewer auxiliaries graduating, 2) the same number of auxiliaries and fewer dentists graduating, which is the government philosophy, 3) the same number of dentists and auxiliaries graduating. It must be noted that it is difficult to be precise when the population projections for the year 2001 vary by one million.

A Manpower Survey or a Manpower Research Program involves research, analysis and evaluation of various factors including:

- supply of dentists — enrolment in dental schools
- supply of auxiliaries
- duties delegated to dental

hygienists

- independent practice by dental hygienists
- independent practice by denturologists
- busyness factor
- waiting time
- licensing and reciprocity
- alternate delivery systems
- migration
- location and operation of practices — accessibility
- demand — public funded programs — private funded programs — education
- new technology
- wages
- productivity
- cost of dental care

Most factors are interrelated. For example, when the busyness factor is considered and if practice loads increase, are more dentists required?; or can the present supply of dentists handle the increase by filling their free time, extending the age of retirement, improving production, having marginal practitioners increase their productivity by decreasing the time spent with outside activities or sharing facilities with other practitioners to increase productivity to 12 hours per day, six days a week? There is a certain degree of elasticity. When incomes rise the supply may decrease as a result of the effects of taxation.

While provincial surveys and actions are effective, there is a role to be played by the national association in developing a true picture.

A national postcard survey would verify addresses to provide information to determine migration. Today's postal codes spell out the age, economic and environmental conditions of all areas and it can be reasoned that a move occurred to meet a need for a dentist in a new area.

It is difficult to look at a decline in dental school enrolment as the ulti-

mate answer to the so-called manpower problem. The profession would be challenged on the basis of a closed union shop. Also, the dental schools require a minimum number of students to maintain a first-class institution.

It is apparent that with less restorative work rendered to children and more orthodontic care; with 40-50

per cent fewer dentures being made and with resulting increase in demand for periodontal and crown and bridge services, there is a definite change in the mix of services performed.

Economists feel that dentists in future will have to render more extensive services, including those presently provided by hygienists and that the attitude of dentists toward the services

they render themselves will have to change.

The Canadian Dental Association, being "future oriented", recognizes its responsibility in this domain and will assimilate the information and data in order to respond in a sophisticated fashion when challenged by government.



The April 2 meeting of the Ad Hoc Committee-Licensing Authorities and CDA in action from left to right: Dr. K.F. Pownall, Registrar, Royal College of Dental Surgeons of Ontario; Dr. J.G. Landry, President, Ordre des Dentistes du Québec; Mrs. Pat Cunningham, Council Secretary; Brig-Gen. W.R. Thompson, Director General of Dental Services, Department of National Defence and member Executive Council; Dr. J.G. Thompson, Executive Director/Registrar, New Brunswick Dental Society; Dr. P.R. Crawford, CDA Board of Governors and Mr. Brian Henderson, co-ordinator for Allied and Medical Education, Canadian Medical Association, who was invited to contribute to the meeting.

Le 2 avril dernier avait lieu une assemblée d'un comité ad hoc formé de membres de l'ADC et des bureaux qui octroient les permis. Dans l'ordre habituel, on reconnaît à l'oeuvre: le Dr K.F. Pownall, registraire du Collège royal des chirurgiens dentistes de l'Ontario; le Dr J.G. Landry, président de l'Ordre des dentistes du Québec; Mme Pat Cunningham, secrétaire du Conseil; le brigadier général W.R. Thompson, directeur général du Service dentaire du ministère de la Défense nationale et membre du Conseil exécutif; le Dr J.G. Thompson, directeur général et registraire de la Société dentaire du Nouveau-Brunswick; le Dr P.R. Crawford, administrateur de l'ADC; et M. Brian Henderson, coordonnateur à l'Éducation médicale et connexe de l'Association médicale canadienne, qui a été invité à participer à l'assemblée.

Ad hoc committee formed

The objectives of the Canadian Dental Association are two-fold: to serve the interests of the public and the profession.

Since the national association deliberates on some issues which are the legal responsibility of the provincial professional corporations such as standards of practice, professional inspection and continuing education, the CDA Board of Governors agreed to establish an ad hoc committee under the auspices of CDA to include an equal number of representatives from CDA and the provincial organizations

issuing licences to practise dentistry and to report to the next meeting of the Board of Governors.

That first ad hoc committee meeting was held April 2 and it was determined at that time that in order to ensure input and discussion by all provincial licensing authorities, the ad hoc committee would meet a second time in an expanded form to include one representative from the provincial authorities not represented on the Committee and that a report would be available at the August meeting of the Board of Governors.



Editor named

CDA Executive Director Hubert Drouin is pleased to announce the appointment of Lynne Owen to the position of editor of the Journal of the Canadian Dental Association. Ms. Owen has been a writer/information officer with the Association since early fall.

A former co-news editor of the Regina Leader-Post, Ms. Owen has more than seven years experience in writing, editing, design, layout, story assignment and dealing with the public.

A native of Montréal, Ms. Owen received her early education there and her honours Bachelor of Journalism degree from Carleton University in Ottawa.

As editor of the Journal Ms. Owen's responsibilities include compiling and editing news, developing themes and overseeing layout.

In the News

A touch of the past being preserved at U. of M.

When the new dental facilities at l'Université de Montréal were officially inaugurated earlier this year, there was a touch of the past included with all the talk of the future.

Research laboratories, a nine-chair training clinic and an expanded dental practice area were all constructed to meet new challenges.

A dental museum named after the faculty's founder, Dr. Eudore Dubeau was created to preserve the past.

Housing equipment and instruments dating back to the early 1900s, faculty members wish the museum to be more than a display area.

Dr. Guy Boyer, who is responsible for the museum, wants it to be an education opportunity for the students. By taking an interest in the museum, he hopes students will voluntarily research and document the artifacts displayed.

For Dr. Boyer, the project is both a restorative and preventive one — restoring history, preventing the loss of a valuable past.

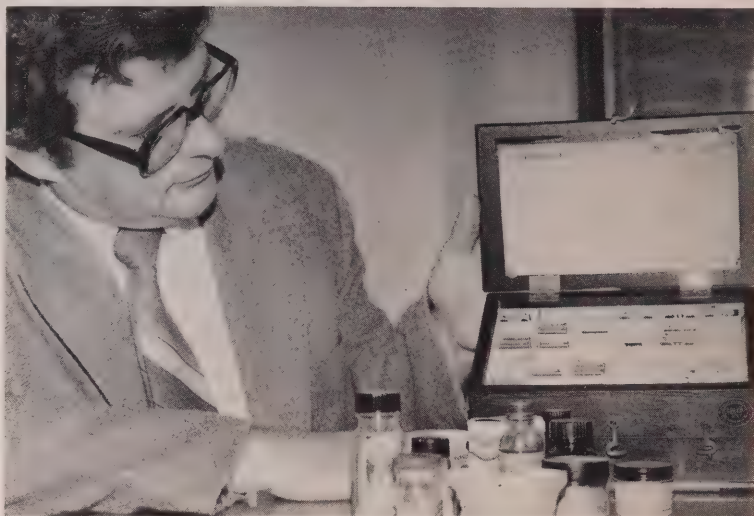
"Being the oldest school in the province, we wanted to do something about our past," he explains. "We thought a lot of instruments and books which illustrated the development of the profession throughout the province were disappearing — simply going down the drain.

"We had some artifacts and we thought that if we started a museum we could get more, just by virtue of having one."

The museum project was included in the overall expansion and renovation of the dental school as part of the university's 75th anniversary.

A small alma mater fund was put toward some of the initial costs, but Dr. Boyer says it was quickly used up. University funding allocated to the faculty for the expansion contributed the rest of the money.

Although most of the museum's



Ron Tropea, registrar of the National Museum of Science and Technology, examines a case of early drill bits and dental materials. The Ottawa museum has an extensive collection of dental artifacts — from chairs to a push-pedal drill — but unfortunately, it has no room to display them.

artifacts are donated, Dr. Boyer says the campaign for articles was not an active one. Stories were periodically run in the journals of the Ordre des Dentistes du Québec and Association des Chirugiens Dentistes du Québec informing members of the progress of the project. There was no high-powered effort to solicit donations.

However, now that the museum is a reality, Dr. Boyer says the faculty will run a more aggressive campaign. He says he's determined to go after the artifacts he wants to build up the museum.

The setting of the museum is different than the traditional display case approach. There are two set-ups of a dentist's practice as it would have appeared between the years of 1910 and 1925. There are also old instruments and several rare dental books.

Dr. Boyer admits future funding of the museum may be a problem. He wants to develop an on-going fund so the museum will be spared any threat of cutbacks.

As for space problems, Dr. Boyer believes the recent expansion of the school has ensured that the museum will be permanent.

"Clinically, we can manage for the next 10 years at least," he says. "And because of the nature of the museum area, it cannot be used for clinic or office space."

Other dental faculty members across the country probably wish they were faced with the same situation. But the need for space seems to be crowding out all but the essential services.

At McGill University, the dental museum was phased out a few years ago when there was a reorganization of office space.

Librarian Jean Sensom says there are now display cases in the library where artifacts such as old books, instruments and dentures are kept, but a lot of articles are in storage. She is currently cataloguing the artifacts and hopes sometime in the future the school will again be able to have a museum.

The dental school at the University of British Columbia faces a similar problem to McGill's. The dean's office confirmed it often receives calls from people wanting to donate articles, but there's simply no place to house a museum in the crowded dental facilities.

At the University of Toronto, dental faculty members are keeping their fingers crossed that their museum will be preserved.

Dr. William MacKay, chairman of the Library and Museum Committee, says this fall the school will be undergoing extensive renovations and expansion which will close down the museum for two years.

Once the construction project is finished, he hopes some provision will be made for the museum.

On display now are dental chairs, cabinets, books, instruments and an early X-Ray machine. But Dr. MacKay says at least three times that

much material is being stored in the building's basement and there's a mound of photographs, some of which he has yet to go through.

He says he gets two to three calls a month from relatives of dentists or retired dentists wanting to donate their equipment. A lot has to be turned away because of the space problem.

Unfortunately, lack of space for dental artifacts is not confined to the schools.

In Ottawa, the National Museum of Science and Technology has a complete dental office, circa 1904 — in storage. The office's artifacts were bought by the museum last year from a local dentist who collects dental antiques as a hobby.

Museum Registrar Ron Tropea says even though there is no space now for an exhibit, the museum will continue collecting dental artifacts. He also plans to encourage donations from the public. That way, once space

becomes available, the museum will have an extensive collection, he says.

"But it would be a lie if I said I knew when we plan to set up the exhibit," says Tropea. "We simply don't know when we'll have the space."

Dr. John Gryfe is one person who wants to do something about it. A Toronto dentist with a keen interest in history, Dr. Gryfe says something must be done to prevent dental history from fading into obscurity.

Ideally, he says he'd like to see a chair of dental history established at a Canadian university as some medical schools now have. But on a more local level, he wants to hear from other dentists with a similar interest in preserving the past. He says this could lead eventually to a national dental historical academy.

Those interested in contacting Dr. Gryfe are asked to write to him at: Suite 209, 1920 Weston Road Weston, Ontario M9N 1W4

CDSPI records excellent growth in 1980

The insurance program recorded a year of excellent growth in 1980 with a 20 per cent increase in the gross premium which reached \$6,716,033. An increase of 8 per cent in the number of participants brought the total number of participants to 9,818 — 85 per cent of all dentists now participate in the insurance program.

The special insurance package for graduating students was very well received with 93 per cent of the eligible graduates taking advantage of the no-cost graduate insurance. As a result, 425 participants became insured.

A number of major events affecting the program took place in 1980. The list follows:

Premium rates for life insurance decreased by 10 per cent.

— *Automatic increase* in life insurance coverage of 10 per cent — no medical evidence required.

— *Automatic increase* in long term disability insurance of 10 per cent — no medical evidence required.

— *Automatic increase* in office overhead expense insurance — no medical evidence required.

Automatic increase in office contents insurance — many took this opportunity to do a review of their needs and then applied for greater amounts of coverage.

Negotiations pertaining to the renewal of our insurance contracts were completed successfully. Some important points were gained with contracts renewed for another period of three years.

— Life insurance open enrolment offering \$25,000 of insurance without medical evidence was a success with more than 1,000 applications submitted.

If you require information concerning the Canadian Dentists' Insurance Program, call C.D.S.P.I. at 416-961-7117. Collect calls welcomed.

C.D.S.P.I. will be in attendance at the following meetings in order to meet with as many people as possible and to assist those members of the profession who may wish to discuss insurance matters.

June 30 - July 1, Moncton, — Atlantic Provinces Annual Convention.

August 20 - Sept. 3, Calgary — C.D.A. Student Representative meeting.

In the News



Pictured at a recent management committee meeting at CDA headquarters are, from left to right, Dr. Clyde Covit, immediate past president, Hubert Drouin, executive director, Dr. Donald Williams, president-elect, and Dr. Gil Utas, president.

Appointment

The Medical Research Council has a new president.

Dr. Pierre Bois, Dean of Medicine of the Université de Montréal for the past 11 years, was appointed by Health and Welfare Minister Monique Bégin.

Dr. Bois was born in Oka, Que. and received his education at Laval University and the Université de Montréal.

He served as a member of the Medical Research Council from 1971 to 1976.

Dr. Bois will be replacing Dr. René Simard, who has been president since 1978. Dr. Simard is returning to active investigative work as Director of the Institut du cancer de Montréal.

Obituaries/Necrologies

BLOOM, Murray Samuel. March 13, 1981. Dr. Bloom was born May 18, 1946 in Winnipeg and attended the University of Alberta Dental School. He graduated in 1972 and practised in Vancouver. From June 1979 to June 1980, Dr. Bloom was Treasurer of the College of Dental Surgeons of British Columbia.

FULDAUER, Henri Solomon. January 18, 1981. Dr. Fuldauer, who practised dentistry in New Westminster, B.C., was born in Rotterdam, Netherlands in March, 1933. He received his early education in Paris and graduated from McGill Dental School in 1959.

JULIEN, Walter, January 26, 1981. A native of New Westminster, B.C., Dr. Julien practised in that city from 1945. Born in 1923, he graduated from North Pacific Dental School (now the University of

Oregon).

PHILLIPS, Harold John, February 27, 1981. Dr. Phillips was born Sept. 3, 1903 in Wimbledon, England. He received his early education from the Royal College of Surgeons there and attended Northwestern Dental School in Bristol. Dr. Phillips practised in Vernon, B.C. since 1954.

JENNEJOHN, Norman Robert, October, 1980. Born December 17, 1908 in North Dakota. Dr. Jennejohn attended dental school at the University of Alberta and also received a geology degree from that school. While a geology student and working for Geographical Survey of Canada, he played an important role in the discovery of gold near what is now Yellowknife, N.W.T. Dr. Jennejohn practised dentistry in Nelson, B.C. where he was active in community groups and serv-

ice clubs.

RONDEAU, Paul, accidentally February 23, 1981. Dr. Rondeau, a prominent Vancouver oral surgeon, was president of the Vancouver and District Dental Society. Born in Montreal on Sept. 16, 1925, he graduated from the University of Toronto Dental School in 1951 and interned at Toronto General Hospital.

Dr. Rondeau had a distinguished army career and as Lieutenant Colonel of the 61st Dental Unit, won the Worthington Trophy making it the best Reserve Dental Unit in Canada. He was later awarded the Canadian Forces Decoration.

A trust fund has been established in his name. The funds will support an annual visiting lectureship and humanitarian award. Donations may be forwarded to the Vancouver and District Dental Society.



Open to both
men and women

Appel
de candidatures
mixtes



Année internationale
des personnes handicapées

Public Service
Canada
Fonction publique
Canada

SENIOR CONSULTANT, DENTISTRY

Salary: \$40,100 — \$50,500

Ref. No.: 81 SM-OC-NHW-1EM-4076

Health and Welfare Canada
Health Services and Promotion Branch
Ottawa, Ontario

Duties

The incumbent is responsible for the provision of professional advice, consultation, and information, in the field of dentistry, on the dental health aspects of departmental activities and programs and for representing the department to professional dental associations and to the provinces.

Qualifications

Graduation from an accredited school of dentistry. Satisfactory experience in controlling and implementing a dental care service. Proven experience in directing a dental program and experience in providing professional advice and information in the field of dental care.

Language requirements

Knowledge of the English and French languages is essential. Unilingual persons may apply but must indicate their willingness to become bilingual. The Public Service Commission will assess the aptitude of candidates to become bilingual. Language training will be provided at public expense.

Clearance No.: 331-086-001

Additional job information is available by writing to the address below:

Toute information relative à ce concours est disponible en français et peut être obtenue en écrivant à l'adresse suivante:

How to apply

Send your application form and/or résumé to:

Jacqueline Cyr
Public Service Commission of Canada
Senior Management Staffing Program
L'Esplanade Laurier, West Tower, Room 1746
Ottawa, Ontario K1A 0M7
(613) 593-5411

Closing date: May 29, 1981

CONSEILLER PRINCIPAL EN DENTISTERIE

Traitement: \$40 100 — \$50 500

Nº de réf.: 81-SM-OC-NHW-1EM-4076

Santé et Bien-être social Canada
Direction générale des services
et de la promotion de la santé
Ottawa (Ontario)

Fonctions

Le titulaire sera responsable de conseiller et de fournir des services de consultation et des renseignements dans le domaine de la santé dentaire touchant les activités et les programmes du ministère et de représenter le ministère auprès des associations professionnelles et des provinces.

Conditions de candidature

Diplôme d'une école de dentisterie agréée. Expérience pertinente dans l'organisation et la mise sur pied d'un service de santé dentaire. Expérience reconnue dans la direction d'un programme de soins dentaires et expérience dans la prestation de conseils professionnels et de renseignements dans le domaine de la santé dentaire.

Exigences linguistiques

La connaissance de l'anglais et du français est essentielle. Les personnes unilingues peuvent poser leur candidature mais doivent indiquer leur volonté de devenir bilingues. La Commission de la Fonction publique évaluera les aptitudes des candidats à devenir bilingues. La formation linguistique sera offerte aux frais de l'État.

Nº d'autorisation: 331-086-001

De plus amples informations sont disponibles en écrivant à l'adresse suivante;

Job information is available in English and may be obtained by writing to the address below.

Comment se porter candidat

Envoyez votre demande d'emploi ou votre curriculum vitae à:

Jacqueline Cyr
Commission de la Fonction publique du Canada
Programme de dotation des cadres supérieurs
L'Esplanade Laurier, tour ouest, pièce 1746
Ottawa (Ontario) K1A 0M7
(613) 593-5411
Date limite: le 29 mai 1981

Please quote the applicable reference number at all times.

Prrière de toujours rappeler le numéro de référence approprié.

Canada

Au sujet de la main-d'oeuvre dentaire...

La main-d'oeuvre dentaire est certes, aujourd'hui, le sujet le plus vivement discuté dans les milieux dentaires. Dans ce domaine, la situation présente est le résultat d'une décision politique que le gouvernement fédéral a prise, il y a plus de dix ans, dans le but d'augmenter le nombre des écoles dentaires afin de remédier à la prétendue pénurie de dentistes. Pourtant, en 1962, dans son mémoire présenté à la Commission Hall, l'Association dentaire canadienne a clairement démontré qu'il n'y avait aucun besoin de créer des écoles dentaires supplémentaires.

Nous disposons maintenant de données sérieuses pour l'évaluation. Ces données proviennent, premièrement, des enquêtes sur les dépenses de pratique, le nombre des traitements et le temps que ceux-ci exigent; deuxièmement des statistiques compilées par le gouvernement et relatives à des groupes d'âge particuliers comme les enfants; et, troisièmement, des renseignements fournis par les assureurs au sujet des nouveaux groupes d'âge qui participent à un régime d'assurance et des groupes d'âge particuliers qui possèdent déjà des régimes d'assurance.

Il est nécessaire de posséder de telles données et d'autres renseignements si l'on veut déterminer le nombre idéal de patients par praticien.

D'après les données actuelles, il est clair que:

- sans un rapide changement, les revenus diminueront, principalement à cause des niveaux de revenu actuels qui tendent à être statiques suite à la baisse du nombre de patients par dentiste et à l'inflation.
- les jeunes dentistes ont été incapables, surtout durant les deux dernières années, d'établir des pratiques. Les diplômés cherchent maintenant à s'associer, à cause du coût élevé d'une pratique et du besoin de faire des essais.

— les pratiques importantes qui ont un effectif de plusieurs auxiliaires ne sont pas aussi occupées qu'elles le souhaiteraient à cause du sérieux problème créé par le fait qu'on utilise peu ceux-ci.

— le fait que les honoraires restent désespérément statiques, les faillites et la difficulté d'établir de nouvelles pratiques confirment qu'il existe un problème au niveau commercial.

— les enfants reçoivent des soins de grande qualité, ce qui signifie que les besoins des adultes différeront à l'avenir. Ainsi il y aura moins d'extractions, mais plus de traitements parodontaires, plus de couronnes et plus de bridges. Ces traitements exigent plus de temps, ce qui forcément aura des conséquences directes sur l'achalandage, bien qu'il y ait actuellement des migrations de dentistes d'une province à l'autre, elles diminueront, étant donné que de nouveaux programmes dentaires seront en vigueur dans la plupart des provinces.

Lors d'une récente enquête menée en Ontario, le public en général s'est dit satisfait du degré de disponibilité du dentiste et plusieurs ont noté que le temps d'attente était beaucoup plus court qu'ils ne s'y attendaient. Suivant cette enquête, 33 pour cent des dentistes et 72 pour cent des diplômés en 1977 et 1978 n'étaient pas suffisamment occupés, et les dentistes ont confirmé le fait que le temps d'attente était très court.

D'après les données recueillies en Ontario en 1979, de 96 à 98 pour cent des récents diplômés en hygiène dentaire ont du travail, 90 pour cent ont cherché un emploi pendant au moins un mois et ils travaillent en moyenne 30,4 heures par semaine.

Il devient donc urgent qu'on entreprenne de mener des études touchant

l'offre et la demande en assumant: premièrement, qu'il y aurait un nombre égal de dentistes et moins d'auxiliaires qui obtiendraient des diplômes; deuxièmement, qu'il y aurait un nombre égal d'auxiliaires et moins de dentistes qui obtiendraient des diplômes, (ce que prône le gouvernement); et troisièmement, qu'il y aurait un nombre égal de dentistes et d'auxiliaires qui obtiendraient des diplômes. On aura soin de remarquer qu'il est difficile d'être précis quand les prévisions de population pour l'an 2001 varient d'un million.

Une enquête ou un programme de recherche sur la main-d'oeuvre doit comporter des recherches, des analyses et une évaluation de divers facteurs, y compris:

- les effectifs de dentistes — les inscriptions dans les écoles dentaires
- les effectifs des auxiliaires
- les tâches confiées aux hygiénistes dentaires
- les pratiques indépendantes pour les hygiénistes dentaires
- les pratiques indépendantes pour les denturologues
- l'achalandage
- le temps d'attente
- l'octroi des permis et la réciprocité
- les différents régimes pour administrer les soins
- les migrations
- l'endroit et l'exploitation des pratiques — accessibilité
- la demande
 - les programmes subventionnés publiquement
 - les programmes subventionnés privément
 - l'éducation
- les techniques nouvelles
- les salaires
- la productivité
- le coût des soins dentaires

La plupart de ces facteurs sont reliés entre eux. Par exemple, lorsque, considérant l'achalandage, le nombre

des clients augmente, on se demandera s'il faut plus de dentistes ou si les réserves courantes peuvent suffire pourvu que les dentistes acceptent de travailler durant leurs temps libres, qu'ils repoussent l'âge de la retraite, qu'ils améliorent leur rendement, qu'ils demandent aux praticiens secondaires d'accroître leur productivité en diminuant le temps consacré à d'autres activités, ou qu'ils partagent leurs installations avec d'autres praticiens afin de porter le service à douze heures par jour, six jours par semaine. Comme on peut le constater, les possibilités sont nombreuses. Par ailleurs, quand le revenu augmente, les effectifs peuvent diminuer à cause des impôts.

Bien que les initiatives des provinces touchant les enquêtes et les mesures prises soient efficaces, l'association nationale doit jouer un rôle de manière à donner un aperçu réel sur la question.

Une enquête nationale pourrait déterminer les endroits où des dentistes sont demandés. Si les codes postaux peuvent, aujourd'hui, indiquer l'âge, les conditions économiques et le milieu de toutes les régions, on peut sans doute en déduire que, dans telle nouvelle région, un besoin pour un dentiste s'est créé.

Il est difficile de considérer la dimi-

nution des inscriptions dans les écoles dentaires comme étant l'ultime solution au prétendu problème de la main-d'oeuvre. On pourrait alléguer que la profession fonctionne en vase clos. De plus, il faut qu'il y ait un minimum d'élèves dans les écoles dentaires afin qu'elles restent des institutions de premier ordre.

Il est évident que la nature des services dentaires rendus change, compte tenu des faits suivants: les enfants exigent moins de restaurations et plus de soins orthodontiques, la demande de dentiers a baissé de 40 à 50 pour cent, mais, par contre, celle des soins parodontaires ainsi que des couronnes et des bridges a augmenté.

Selon les économistes, les dentistes auront, dans le futur, à rendre des services plus complets, y compris ceux qui sont présentement fournis par les hygiénistes, et leur attitude à l'égard des services qu'ils rendent eux-mêmes devra changer.

Étant totalement "tournée vers l'avenir," l'Association dentaire canadienne sait quelles sont ses responsabilités dans ce domaine. Aussi en étudie-t-elle tous les renseignements et données de manière à pouvoir répondre comme il se doit lorsque le gouvernement lui lance des défis.

Nouveau rédacteur

M. Hubert Drouin, directeur général de l'ADC, a le plaisir d'annoncer la nomination de Lynne Owen au poste de rédacteur en chef du Journal de l'Association dentaire canadienne. Mme Owen était déjà agent d'information et rédactrice de l'Association, depuis le début de l'automne.

Ancien chef associé de l'information au Regina Leader-Post, Mme Owen compte plus de sept années d'expérience en rédaction, édition, conception graphique, mise en page, affectation de travail, ainsi qu'en relations publiques.

Originaire de Montréal, où elle a fait ses premières études, Mme Owen détient un baccalauréat en journalisme de l'Université Carleton d'Ottawa.

À titre de rédacteur en chef du Journal, il lui incombe de veiller à la compilation et à la publication des informations, à l'élaboration des thèmes et à la mise en page.

Attention, nouveaux diplômés...

L'Association dentaire canadienne offre à tous les nouveaux diplômés des écoles dentaires une adhésion gratuite à l'ADC à partir du moment où ils reçoivent leurs diplômes jusqu'au 31 décembre 1981. Pour se prévaloir de cette offre, il suffit d'être membre étudiant de l'ADC.

Dans la plupart des provinces, les associations dentaires envoient aux diplômés une facture pour qu'ils acquittent les frais de permis, les frais de cotisation de l'association provinciale et ceux de l'ADC.

Dans ce cas, les diplômés doivent écrire au Bureau des Affaires étudiantes de l'Association dentaire canadienne en indiquant leurs nom et adresse, l'année et l'école où ils ont reçu leur diplôme, ainsi que la province dans laquelle ils ont acquitté leurs frais de cotisation. L'ADC leur remboursera la moitié des frais qu'ils ont acquitté pour en devenir membres aussitôt que l'association provinciale aura eu remis à l'association nationale les sommes qui lui sont dues.

Au Québec et en Ontario où l'adhé-

sion à l'ADC est libre, les nouveaux diplômés seront facturés seulement pour la moitié des frais de cotisation. Par conséquent, on considérera qu'ils ont été remboursés et de ce fait, ils seront automatiquement membres de l'ADC et ils auront droit à tous les bénéfices prévus à compter de l'obtention de leurs diplômes jusqu'au 31 décembre 1981.

Pour de plus amples renseignements, veuillez consulter le représentant des étudiants de votre école dentaire.

Les musées dentaires

Lorsque furent inaugurées, au début de l'année, à l'Université de Montréal, les nouvelles installations dentaires, on a pu apprécier le fait que les perspectives de l'avenir n'excluaient pas nécessairement le souvenir du passé.

Pour relever les défis du futur, on a aménagé des laboratoires de recherche, une clinique de formation comprenant neuf chaises et une pratique dentaire plus vaste que la précédente.

Et pour préserver le passé, un musée dentaire qu'on a nommé d'après le fondateur de l'école, le Dr Eudore Dubeau.

On y a rassemblé une intéressante collection de pièces et d'instruments datant du début du siècle. Les membres de l'école en sont impressionnés au point de désirer que le musée soit plus qu'un lieu d'exposition.

Aussi le responsable du musée, le Dr Guy Boyer, souhaite-t-il qu'il stimule les étudiants de manière à les amener à faire des recherches et à rassembler de la documentation sur les objets exposés.

Pour le Dr Boyer, il s'agit là d'un projet de restauration et de prévention, puisqu'il désire qu'on reconstruise l'histoire dentaire de l'époque, tout en empêchant que ne se perde la précieuse expérience du passé.

"Comme nous sommes la plus ancienne école dans la province, a-t-il déclaré, nous voulons faire quelque chose au sujet de notre passé. Nous avons pensé que plusieurs volumes et instruments qui illustrent le progrès de la profession dans la province étaient en train de disparaître, de se gaspiller inutilement.

"Nous avions quelques objets et nous avons cru que, si nous fondions un musée, nous en obtiendrions d'autres juste à cause du musée même."

"C'est ainsi que le projet d'un musée fut inclus dans les travaux d'agrandissement et de rénovation de l'école dentaire, lors du 75e anniversaire de



M. Ron Tropea, registraire du Musée national des sciences et de la technologie, examine un ancien foret actionné à la pédale. Le musée possède de nombreux objets dentaires, mais l'espace pour les exposer fait défaut.

l'Université de Montréal.

Pour couvrir les dépenses initiales, on a eu recours au fonds de l'alma mater qui, peu abondant, fut vite épuisé. Pour le reste, on préleva sur les sommes allouées à l'école pour les travaux d'agrandissement.

Bien que la plupart des objets du musée soient des dons, il n'y a pas eu, pour les obtenir, vraiment de campagne comme telle. À l'occasion, paraissent dans le Journal de l'Ordre des dentistes du Québec et dans celui de l'Association des chirurgiens dentistes du Québec des articles renseignant les membres sur les progrès du projet. Il n'y a donc pas eu un effort concerté pour solliciter des dons.

Cependant, maintenant que le musée est devenu une réalité, l'école compte mener une véritable campagne, a déclaré le Dr Boyer, ajoutant qu'il est déterminé à aller chercher les pièces qu'il désire pour enrichir la collection du musée.

La disposition du musée diffère de la disposition traditionnelle avec vitrines, puisqu'on a reconstitué deux cabinets dentaires dans le style des années 1910 à 1925. De plus, il y a des instruments anciens et plusieurs volumes rares portant sur la dentisterie.

Le Dr Boyer concède que le financement du musée pourra éventuellement constituer un problème. Aussi désire-t-il établir un moyen d'autofinancement dans l'espoir que le musée ne soit aucunement menacé par les restrictions budgétaires.

Quant à l'espace, le Dr Boyer pense que, vu le récent agrandissement de l'école, le musée est assuré d'être permanent.

"En pratique, nous pourrions nous débrouiller pour au moins les dix prochaines années, a-t-il dit. Étant donné la façon dont a été aménagé l'espace consacré au musée, il ne peut pas être utilisé pour une clinique ou pour un bureau."

D'autres écoles dentaires canadiennes souhaiteraient sans doute être placées dans la même situation. Malheureusement, il semble que le besoin croissant d'espace ne permet rien d'autre que les services essentiels.

Ainsi à l'Université McGill, il y a quelques années, le projet d'un musée dentaire a été supprimé pour donner place à des bureaux.

La bibliothécaire, Jean Sensom, a avoué que plusieurs objets, tels des volumes, des instruments et des dentiers anciens, sont gardés sous vitrine à la bibliothèque, mais qu'il y a aussi un grand nombre d'articles qu'on a dû entreposer. Actuellement, elle s'occupe de cataloguer ces objets dans l'espoir que l'école, un jour, pourra avoir son musée.

Toujours à l'Université McGill, un membre de l'école dentaire conserve dans son bureau une pièce rare. Il s'agit de dents enfilées à la manière d'un chapelet et montées sur un support. Cette pièce curieuse provient de Corée et servait d'enseigne à un médecin qui était aussi arracheur de dents.

L'école dentaire de l'Université de la Colombie-Britannique a un problème semblable à celui de l'Université McGill. Le doyen, affirme-t-on, reçoit souvent des appels de personnes qui désirent faire des dons. Malheureusement, il n'y a tout simplement pas d'espace pour aménager un musée dans les installations dentaires déjà encombrées.

À l'Université de Toronto, les membres de l'école dentaire espèrent qu'ils pourront conserver leur musée.

Le président du Comité chargé de la bibliothèque et du musée, le Dr William MacKay, a révélé que, cet automne, l'école sera rénovée et agrandie considérablement, ce qui obligera de fermer le musée pour deux ans.

Une fois ces travaux terminés, il espère que des dispositions seront prises touchant le musée.

Actuellement, on peut y voir des chaises dentaires, des pharmacies, des volumes, des instruments et un des premiers appareils à radiographier. Toutefois, de l'aveu du Dr MacKay, il y a au moins trois fois plus de maté-

riel rangé au sous-sol de l'immeuble ainsi qu'une énorme pile de photographies qu'il lui reste encore à inventorier.

Lui aussi reçoit chaque mois deux ou trois appels de la part de parents de dentistes ou de dentistes à la retraite qui désirent donner leur équipement à l'école. Toutefois, à cause du manque d'espace, le Dr MacKay se voit contraint de refuser ces dons.

Malheureusement, l'espace ne fait pas seulement défaut pour les collections des écoles dentaires.

À Ottawa, le Musée national des sciences et de la technologie possède un cabinet dentaire complet qui daterait de 1904. Où le trouve-t-on? Dans un entrepôt... C'est l'an dernier que le Musée national a acquis les pièces de ce cabinet. Elles appartenaient à un dentiste de la région qui, dans ses moments de loisir, collectionne les anciens objets dentaires.

M. Ron Tropea, registraire du Musée national, a déclaré que, même si le manque d'espace ne permet pas d'exposer le cabinet ancien maintenant, le musée continuera à collectionner des pièces de la médecine dentaire telle qu'on la pratiquait jadis. De plus, il projette d'encourager le public à faire des dons. De cette façon, quand l'espace sera disponible, le musée disposera d'une importante collection.

Cependant, a précisé M. Tropea, "ce serait mentir de dire que nous savons quand nous projetons cette exposition. Nous ignorons simplement quand nous aurons l'espace voulue."

De son côté, le Dr John Gryfe a décidé de faire quelque chose à ce sujet. Dentiste torontois possédant un vif intérêt pour l'histoire, le Dr Gryfe déclare qu'il faut agir si l'on veut empêcher que l'histoire de la dentisterie ne sombre dans l'obscurité.

Idéalement, proclame-t-il, il faudrait qu'on crée, dans une université canadienne, une chaire d'histoire de la dentisterie sur le modèle de celles qu'ont présentement certaines écoles de médecine. Cependant, pour en rester au niveau local, le Dr Gryfe désire connaître l'avis des autres dentistes

qui veulent également préserver le passé. Éventuellement, on pourrait peut-être créer une académie nationale d'histoire de la dentisterie.

Les intéressés peuvent communiquer avec le Dr Gryfe en lui écrivant à l'adresse suivante:

1920 Weston Road,
Suite 209,
Weston (Ontario)
M9N 1W4.

Comité ad hoc

Les objectifs de l'Association dentaire canadienne sont doubles; puisqu'elle veut servir les intérêts du public et de la profession.

Étant donné que l'association nationale discute certains points qui, juridiquement, relèvent des sociétés professionnelles des provinces, — par exemple, les normes de pratique, la vérification professionnelle et l'éducation permanente, — le Conseil d'administration de l'ADC a accepté d'établir un comité ad hoc patronné par l'ADC et comprenant un nombre égal de représentants de l'ADC et des organisations provinciales qui octroient les permis dentaires. Ce comité devra présenter un rapport à la prochaine assemblée du Conseil d'administration.

La première assemblée du comité ad hoc a eu lieu le 2 avril dernier et on a déterminé alors que le comité, — de manière à assurer que tous les bureaux provinciaux qui octroient des permis aient une chance d'exprimer leurs idées et de participer à la discussion, se réunirait une seconde fois afin d'inviter le seul représentant de bureau provincial manquant à faire partie du comité. Il fut également décidé qu'un rapport serait soumis au Conseil d'administration lors de l'assemblée du mois d'août. Photo, p. 283.

Excellent rendement des CDSPI en 1980

En 1980, les régimes d'assurance ont accompli d'excellents progrès, la prime brute ayant augmenté de 20 pour cent pour atteindre 6716 044\$. Le nombre de participants s'est élevé à 9 818, ce qui représente une augmentation de 8 pour cent et signifie que 85 pour cent de tous les dentistes prennent part aux régimes d'assurance.

Le régime d'assurance établi spécialement pour les étudiants a été très bien accueilli, puisque 93 pour cent des diplômés admissibles, soit 425 en tout, se sont prévalus des avantages de cette assurance gratuite.

Plusieurs événements importants ont eu lieu en 1980, touchant les régimes d'assurance, comme en témoigne la liste suivante qui ne laissera pas d'impressionner.

- Les primes de l'assurance-vie ont diminué de dix pour cent.
- La garantie de l'assurance-vie a été *automatiquement augmentée* de

dix pour cent. Aucun certificat médical n'est requis.

- L'assurance invalidité prolongée a été *automatiquement augmentée* de dix pour cent. Aucun certificat médical n'est requis.
- L'assurance des frais généraux a été *automatiquement augmentée*. Aucun certificat médical n'est requis.
- L'assurance des biens de la pratique a été *automatiquement augmentée*. Plusieurs dentistes ont profité de cette occasion pour réviser leurs besoins et ont demandé une garantie additionnelle.
- Les négociations touchant le renouvellement des contrats d'assurance ont été couronnées de succès. Plusieurs points importants ont été gagnés et les contrats ont été renouvelés pour une autre période de trois ans.
- L'adhésion libre au régime d'assu-

rance-vie offrant une protection de 25 000\$ sans aucun certificat médical a remporté un vif succès. Plus de mille demandes ont été soumises.

- Les CDSPI ont créé un nouveau service de communications qui sera chargé de l'information et de la promotion touchant les régimes d'assurance conçus à l'intention des dentistes canadiens.

L'année 1981 promet d'être aussi passionnante et mouvementée que l'année 1980. Il y a plusieurs projets à l'étude et des renseignements dignes d'intéresser toute la profession vous seront communiqués bientôt.

Comme toujours, si vous désirez plus de renseignements touchant les régimes d'assurance des dentistes canadiens, veuillez communiquer avec les CDSPI en composant (416) 961-7117 et en faisant virer les frais.

Des représentants des CDSPI assisteront aux assemblées suivantes afin de rencontrer le plus de gens possible et pour aider les membres de la profession qui voudraient se renseigner sur les assurances.

30 juin et 1er juillet, Moncton — Congrès annuel des Maritimes.

Du 20 août au 3 septembre, Calgary — Congrès de l'ADC.

Nouvel examen du Collège royal

Ceux qui désirent devenir membres du Collège royal des dentistes du Canada (CRDC) suivant la nouvelle classification des membres, auront la chance de se qualifier comme tels les 19 et 20 juin prochains.

À ces dates se tiendra simultanément, à Toronto et à Edmonton, la première partie des examens pour devenir membre du CRDC.

Outre les deux examens écrits réguliers qui durent trois heures chacun, un examen oral est prévu pour évaluer les connaissances cliniques des candidats.

Les deux examens écrits auront lieu le 19 et l'examen oral, le 20. Ce dernier se composera de questions basées sur des cas identiques pour les deux centres d'examen, afin d'assurer que les normes soient les mêmes pour tous.

Cette nouvelle classification des membres a été établie par le CRDC en

juin dernier. L'automne prochain, on procédera à une révision de ce nouveau système.

La réussite de la première partie de l'examen continuera d'être une exigence pour obtenir le certificat de spécialiste émis par le Conseil national d'examen dentaire et le CRDC.

Le Collège offre maintenant, sans exiger l'examen, le certificat de membre aux spécialistes dentaires qui ont déjà réussi la première partie de l'examen, aux spécialistes qui détiennent le certificat de portabilité du CNED et du CRDC ainsi qu'à tous les spécialistes qui, le 1er janvier 1981, détenaient un certificat provincial depuis au moins huit ans.

Pour de plus amples renseignements, veuillez communiquer avec le registraire du Collège, le Dr John E. Speck.

Nouveau diplômé

Récemment, l'Université Laval remettait au Dr Daniel Forget un certificat en chirurgie buccale et maxillo-faciale. Ce certificat exige quatre années d'études en plus des études régulières en dentisterie. Il s'agit du quatrième du genre que l'Université Laval confère depuis qu'a été établi le Programme de chirurgie buccale et maxillo-faciale, le seul qui soit donné en français au Canada.

President extends invitation to '81 Convention



Dr. Gil Utas

As President of the Canadian Dental Association, I cordially invite you to attend the CDA Convention to be held August 30 — September 2, 1981 in the famous stampede city of Calgary, Alberta.

As this is the first time Calgary has been host to the CDA Convention, you may rest assured that the whole city will outdo its own famous hospitality to present a warm western welcome.

You will enjoy an interesting

selection of lectures and clinics as well as an impressive dental industry exhibition.

It is an ideal time of year to plan a pre-convention vacation in the nearby beauty of the majestic Rockies.

Horse-country social events, including a rodeo and barbecue, will keep you more than well - entertained and happy.

See you all in Calgary.

G.E. Utas D.D.S.
President CDA

Convention activities in Calgary

Calgary is the setting this summer for the 1981 Canadian Dental Association Annual Convention.

The four-day event will open Sunday, August 30 with registration and exhibits in the Convention Centre at the Four Seasons Hotel.

For those who arrive early in the afternoon, there will be a tour for spouses and children to Spruce Meadows, a riding and jumping equestrian complex.

Opening ceremonies will be held Sunday evening with dinner, dancing and music. Dress attire is western.

MONDAY

For early risers, a jogging tour will leave the Convention Centre every morning at 6. Trade exhibits open at 9 a.m. every day.

The clinical program will get underway after a chuckwagon breakfast. Dr. C. Castaldi is this year's speaker at the Grieve Memorial Lecture which

begins at 10:30 a.m.

At the Installation Luncheon, Dr. Gil Utas will pass the Presidential Chain of Office to Dr. Donald Williams.

The clinical program in the afternoon includes a talk by a Canadian futurist and a symposium on dentistry for the handicapped. Student table clinics will be held from 2 to 5 p.m.

For the spouses and children, tours have been arranged to the zoo, the planetarium and an amusement park. Tee-off times for golf are also available at several local private clubs.

The highlight Monday evening is the President's Dinner and Dance. Advance tickets are required.

TUESDAY

The symposium on dentistry for the handicapped continues Tuesday morning until noon. Other clinical seminars are scheduled until 4 p.m.

The spouse program includes visits

to Heritage Park, the Glenbow Museum and walking and city bus tours. There will also be a ladies luncheon and fashion show at Pinebrook Golf & Country Club.

Tuesday evening features a rodeo show, barbecue beef dinner and dance at the Calgary Stampede fair grounds. Dress attire is western.

WEDNESDAY

From 9 a.m. until noon, there will be seminars on stress and on surgical endodontics. There will also be student table clinics during the same period.

TRANSPORTATION

All lectures, exhibits and table clinics will be held in the Convention Centre in the Four Seasons Hotel. Convention organizers have arranged shuttle buses for tours for spouses and children and to the Stampede grounds.

Convention

Speakers to discuss variety of subjects

Ruben F. Nelson, author of *The Illusions Of Urban Man* is a Canadian futurist. President of Square One Management Ltd. in Ottawa, Mr. Nelson acts as a consultant to government, universities, business corporations, hospitals, churches and volunteer organizations. His job is to help others face, explore and understand the nature and implications of social, economic and technological changes which are now taking place in Canada.

Since 1972, Dr. Charles M. Sorenson has been associated with the international consulting firm, Selection Research, Inc. A clinical psychologist, pastoral counsellor and management consultant, Dr. Sorenson's work includes helping persons and organizations achieve their full potential. He

will be speaking to conference delegates on managing the dental office.

Dr. Ronald E. Jordan is the author of 32 scientific papers and co-author of two textbooks. Professor and chairman of the department of restorative dentistry at the University of Western Ontario, Dr. Jordan will be speaking on current concepts in his field at the convention. He has been with the restorative dentistry department at the university since 1966.

Ray Kelly is athletic therapist with the faculty of physical education and recreation at the University of Alberta. Mr. Kelly has worked with athletic teams at the local, national, international and Olympic level. In his speech on stress management, he will talk about planned physical activity and

its relevance to one's emotional health and general well-being. Mr. Kelly will emphasize the relation physical activity has with stressful professions such as dentistry.

Dr. Harry L. Gelfant is a certified specialist in Prosthodontics and has limited his practice to fixed procedures. He is an honorary sessional lecturer at the University of British Columbia and has presented numerous courses for the Centre for Continuing Education.

Dr. Gelfant will be presenting his comprehensive approach to crown and bridge procedures, one that can be directly utilized in the dentist's office. He will discuss the principles of practical crown and bridge restoration of patients, with case presentations.

CDA NATIONAL CONVENTION CLINICAL PROGRAM AUGUST 30 TO SEPTEMBER 2, 1981

MONDAY		TUESDAY				WEDNESDAY		STUDENT TABLE CLINICS
10:30-11:30 Grieve Memorial Lecture (Dr. C. Castaldi)		9:00-12:00 Symposium conts. (Doris J. Stiefel) (Stuart L. Fischman) (Leonard B. Smith)	9:00-12:00 Current Concepts in Restorative Dentistry for the General Practitioner (Ron Jordan)	9:00-12:00 Managing for Excellence in the Dental Office (Charles Sorenson)	9:00-12:00 Practical View of Crown and Bridge Principles and their Application in Clinical Dentistry (Harry Gelfant)	9:00-12:00 Surgical Endodontics (Carl E. Hawrish)	9:00-12:00 Stress Management to Physical Activity and Injuries (Ray Kelly)	

LUNCH TWO HOURS

MONDAY			TUESDAY			WEDNESDAY		STUDENT TABLE CLINICS
2:00-5:00 Dentistry for the Handicapped sponsored by The Royal College of Dentists of Canada (Walter J. Loesche) (Saul Kamen) (R.L. Moran) to be continued Tuesday morning	2h00-4h00 What Lies Ahead (Ruben Nelson)			2:00-4:00 continued from morning session	2:00-4:00 continued from morning session	2:00-4:00 continued from morning session		

August 30 to
September 2, 1981
Calgary, Alberta

National Convention

Canadian Dental Association

Congrès National

Association dentaire canadienne

DENTISTS
Registering Prior to
July 1, 1981 - Complimentary
White Stetson Cowboy Hat

REGISTRATION FORM

PLEASE PRINT OR TYPE

Name _____

Address _____

Postal Code _____ Telephone Number _____

Receipt will be sent to the above. Please use separate forms if individual receipts are required. You may photocopy this form.

ROLE: Please indicate your principal role in CDA, CDHA, CDNAA, e.g., Member, President of Prosthodontic Section, Chairman of Council on Education, etc., after your name.

DENTISTS: Name (For name tag) _____ **ROLE** _____
CDA Member & Foreign Dentists \$175.00 before or \$200.00 after July 1, 1981
Canadian Non-CDA Member \$225. before or \$250. after July 1, 1981

\$ _____

INCLUDES: Scientific Sessions, Exhibits, Sunday opening ceremonies, Monday Morning Chuck Wagon Breakfast, Installation Luncheon, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance.

DENTAL HYGIENISTS: Name (For name tag) _____ **ROLE** _____
CDHA Member \$95.00 before or \$115.00 after July 1, 1981
Non-CDHA Member \$190.00 before or \$200.00 after July 1, 1981 (does not apply to Non-Canadian Hygienists who belong to their own Association)

\$ _____

INCLUDES: Scientific Sessions, Exhibits, two Luncheons and one Continental Breakfast, Bar-B-Que, Rodeo and Dance.

DENTAL TECHNICIANS: Name (For name tag) _____ **ROLE** _____
\$80.00

\$ _____

EXHIBITORS: Name (For name tag) _____

INCLUDES: Scientific Sessions, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance, White Stetson Hat.

DENTAL NURSES AND ASSISTANTS: Name (For name tag) _____ **ROLE** _____
CDNAA Member \$90.00 before \$100.00 after July 1, 1981.
Non-Member \$100.00 before or \$110.00 after July 1, 1981.

\$ _____

INCLUDES: Scientific Sessions, Exhibits, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast (optional for \$5.00) Monday Night Dinner Theatre, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance.

SPOUSES: (Other than dentists and auxiliaries) Name (For name tag) _____
\$75.00 before or \$90.00 after July 1, 1981.

\$ _____

INCLUDES: Scientific Sessions, Exhibits, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast, Fashion Show Luncheon, Tuesday Luncheon and Sightseeing Tours and evening Bar-B-Que, Rodeo and Dancing.

Monday night President's Dinner and Dance \$45.00 per couple \$ _____
Tuesday night Bar-B-Que, Rodeo and Dance, additional admission tickets — \$30.00 each \$ _____

CANCELLATION: Full registration fee refundable up to July 1, 1981. 75 per cent refundable after that date. **TOTAL** \$ _____

MAIL TO: DR. JACK A. DERBYSHIRE, Registration and Accommodation Chairman
496 - Palliser Square East, 115 - 9th Avenue S.E.
Calgary, Alberta, T2G 0P5 — Phone: 1-(403) 261-5877.

du 30 août au
2 septembre 1981
Calgary (Alberta)

National Convention

Congrès National

Canadian Dental Association

Association dentaire canadienne

DENTISTES

Inscrivez-vous avant le 1^{er} juillet
1981 et recevez gratis un chapeau
de cowboy de marque Stetson

FORMULAIRE D'INSCRIPTION

(ÉCRIRE EN LETTRES MOULÉES OU À LA MACHINE)

Nom _____

Adresse _____

Code postal _____ Numéro de téléphone _____

Un reçu global sera envoyé à l'adresse ci-dessus, à moins que vous ne préfériez des reçus individuels (en ce cas, reproduisez le présent formulaire et envoyez autant d'inscriptions qu'il le faut).

FONCTION: A la suite de votre nom, indiquez votre fonction principale au sein de l'ADC, de l'ACHD ou de l'ACGMAD (exemples: membre, président de la Division de prosthodontie, président du Conseil de l'éducation, etc.).

DENTISTES: Nom (à inscrire sur votre insigne) _____ **FONCTION:** _____
Membres de l'ADC et dentistes étrangers: 175 \$ avant le 1^{er} juillet 1981, ou 200 \$ après.
Canadiens non membres: 225 \$ avant le 1^{er} juillet 1981, ou 250 \$ après.

\$ _____

Privilegès:

Séances de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et déjeuner "Installation" le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi.

HYGIÉNISTES DENTAIRES: Nom (à inscrire sur e'insigne) _____ **FONCTION:** _____
Membres de l'ACHD: 95 \$ avant le 1^{er} juillet 1981, ou 115 \$ après.
Non membres: 190 \$ avant le 1^{er} juillet 1981, ou 200 \$ après (ne concerne pas les hygiénistes étrangers qui ont leur propre association).

\$ _____

Privilegès:

Séances de travail, exposition, un petit déjeuner continental et deux déjeûners, un dîner-barbecue, rodéo et danse.

TECHNICIENS DENTAIRES: Nom (à inscrire sur e'insigne) _____ **FONCTION:** _____
80 \$

\$ _____

EXPOSANTS: Nom (à inscrire sur l'insigne) _____

\$ _____

Privilegès:

Séances de travail; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi; chapeau de cowboy Stetson.

GARDE-MALADES ET ASSISTANTS(ES) DENTAIRES: Nom (à inscrire sur l'indigne) _____ **FONCTION:** _____
Membres de l'ACGMAD: 90 \$ avant le 1^{er} juillet 1981, ou 100 \$ après.
Non membres: 100 \$ avant le 1^{er} juillet 1981, ou 110 \$ après.

\$ _____

Privilegès:

Sessions de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et, moyennant 5 \$ supplémentaires, dîner-théâtre en soirée le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi.

CONJOINTS: (autres que dentistes et assistants) Nom (à inscrire sur l'insigne) _____
75 \$ avant le 1^{er} juillet 1981, ou 90 \$ après.

\$ _____

Privilegès:

Séances de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et déjeuner-parade de mode le lundi; déjeuner, visite organisée, dîner-barbecue, rodéo et danse le mardi.

Lundi, en soirée, dîner et bal du président: 45 \$ le couple.

\$ _____

Mardi, en soirée, dîner-barbecue, rodéo et danse: billets supplémentaires, 30 \$ chacun.

\$ _____

ANNULATIONS: Remboursement entier des frais d'inscription, avant le 1^{er} juillet 1981; après quoi, il y aura une retenue de 75%.

ADRESSE: Dr JACK A. DERBYSHIRE, président (Inscription et Hébergement)
496 - Palliser Square East, 115 - 9th Avenue S.E.
Calgary, Alberta, T2G 0P5 - Telephone: 1 (403) 261-5877.

TOTAL \$ _____

August 30 to
September 2, 1981
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National Convention

Canadian Dental Association

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Association dentaire canadienne

du 30 août au
2 septembre 1981
Calgary (Alberta)

HOTEL RESERVATION FORM FORMULAIRE DE RÉSERVATION DE CHAMBRE D'HOTEL

PLEASE PRINT — LETTRES MOULÉES, S.V.P.

Name — Nom _____

Address — Adresse _____

Tel. No. — N° de tél. _____

No. of Adults _____ Children _____ in room.

Nombres d'adultes _____ d'enfants _____ par chambre.

Dentist	☐	Dentiste	☐
Hygienist	☐	Hygiéniste	☐
Assistant	☐	Assistant(e)	☐
Technician	☐	Technicien(ne)	☐
Exhibitor	☐	Exposant	☐

HOTEL List 5 Hotels in order of Preference
HÔTEL Indiquer 5 hôtels par ordre de préférence

Single ☐

Twin ☐

Simple ☐

Jumeaux ☐

Double ☐

Triple ☐

1. _____
2. _____
3. _____
4. _____
5. _____

Do you wish your reservation guaranteed? Yes _____ No _____ Unless guaranteed, reservation will only be held until 6 p.m. Room allocation will be made only to convention registrants. Advance payment will be required upon receipt of confirmation. Do not enclose accommodation payment with this form. Do not include accommodation payment in registration cheque.

Désirez-vous garantir votre réservation? Qui _____; Non _____. Cette protection permettra à l'hôtel de vous garder une chambre après 18 heures. Les chambres seront attribuées seulement à ceux qui se seront inscrits au congrès. Vous devrez cependant verser un acomptesur vos frais d'hébergement dès que l'hôtel aura confirmé votre réservation. Vous n'avez donc pas à payer ces frais immédiatement ni à en joindre le paiement à celui des frais d'inscription.

Date arriving — Date d'arrivée _____ AM _____ PM _____ Mode of Travel _____

Date departing — Date de départ _____ AM _____ PM _____ Mode de Transport _____

	Simple			
	Single	Double	Triple	Code
1. ‡Four Seasons Hotel	\$70.00	\$84.00	—	
2. The Palliser (CP)	\$55.00	\$65.00	—	+ reserved for dental assistants
3. Calgary Inn	\$72.00	\$87.00	—	@reserved for dental hygienists
4. The International	\$63.00	76.00	—	‡Convention Centre
5. Holiday Inn	\$51.00	\$57.00	—	
6. Westward Inn	45.00	\$52.00	—	+ réserve aux assistants dentaires
7. + Bow Valley Inn	\$68.00	\$75.00	\$82.00	@réserve aux hygiénistes dentaires
8. @Sandman Inn	\$48.00	\$54.00	\$59.00	‡Lieux du congrès

DEADLINE FOR MAKING ADVANCE RESERVATIONS: July 1, 1981
DATE LIMITE POUR LES RÉSERVATIONS ANTICIPÉES: le 1^{er} juillet 1981

Return this reservation form to the registration chairman:
Retourner le présent formulaire au secrétariat du congrès:

Dr. Jack A. Derbyshire
#496 — Palliser Square East
115 - 9th Avenue S.E.
Calgary, Alberta, T2G 0P5

Hotel Accommodations must
be made through Registration Chairman

Les dispositions d'hébergement doivent être
prises auprès du président du comité d'inscription

Congrès

Rendez-vous à Calgary



Dr Gil Utas

À titre de président de l'Association dentaire canadienne, je vous invite cordialement à participer au Congrès de l'ADC qui aura lieu du 30 août au 2 septembre 1981, à Calgary (Alberta), ville célèbre pour le "stampede" qu'elle tient chaque année.

Comme ce sera la première fois que la ville de Calgary sera l'hôte du Congrès de l'ADC, elle fera l'impossible pour vous réserver un accueil des plus chaleureux comme seul l'Ouest canadien sait en offrir.

Vous pourrez assister à des conférences et à des cliniques particulièrement choisies pour vous intéresser. De plus, il y

aura une importante exposition portant sur l'industrie dentaire.

Comme il s'agira d'un moment idéal pour prendre des vacances, vous voudrez sans doute profiter du majestueux site que présentent les Rocheuses.

Enfin, les divertissements, préparés naturellement dans le style "western", comprendront un rodéo et un barbecue. Vous ne manquerez certes pas de vous y amuser beaucoup.

Je compte donc vous voir tous prochainement à Calgary.

Le président de l'ADC.
le Dr G.E. Utas, D.D.S.

Programme du Congrès de l'ADC

Cette année, le Congrès de l'Association dentaire canadienne se tient à Calgary.

Il a lieu précisément la fin de semaine avant celle de la Fête du travail et débute le dimanche 30 août pour se terminer le mercredi suivant. L'inscription se fait au Centre des congrès de l'hôtel *Four Seasons* où se trouve l'exposition.

Pour ceux qui arrivent tôt l'après-midi, on a prévu, à l'intention des conjoints et des enfants, une excursion à *Spruce Meadows*, centre de balades et de sauts équestres.

Le congrès débute officiellement le dimanche soir par une cérémonie et un dîner dansant.

LUNDI

À 6h00 chaque matin, les matineux peuvent se joindre à un groupe qui part du Centre des congrès pour faire du jogging.

L'exposition commerciale ouvre ses portes à 9h00 tous les jours.

Les conférences cliniques débutent après un petit-déjeuner style "chuck-wagon". Cette année, c'est le Dr C.

Castaldi qui est désigné pour prononcer la conférence *Grieve Memorial*. Celle-ci a lieu à 10h30.

Lors du déjeuner d'investiture, le Dr Gil Utas remet le collier présidentiel au Dr Donald Williams.

L'après-midi, le programme clinique comprend un exposé par un futuriste canadien et un symposium sur la dentisterie pour les handicapés. Les étudiants tiennent leurs conférences cliniques en table ronde de 14h00 à 17h00.

À l'intention des conjoints et des enfants, on a organisé des excursions au zoo, au planétarium et à un parc d'amusements. Des réservations ont été faites à plusieurs clubs privés pour les amateurs de golf.

Dans la soirée a lieu le dîner et le bal du président. Ceux qui désirent y assister doivent se procurer des billets à l'avance.

MARDI

Le symposium sur la dentisterie pour les handicapés se poursuit jusqu'à midi. D'autres séminaires sont prévus jusqu'à 16h00.

Le programme des conjoints comprend une visite à *Heritage Park*, au musée *Glenbow* ainsi que des excursions à pied ou en autobus. De plus, au *Pinebrook Golf & Country Club*, il y aura un déjeuner et une présentation de modèles pour les dames.

La soirée est consacrée à un rodéo, à un dîner barbecue et à une danse au centre du *Stampede* de Calgary. Le tenue "western" est de mise.

MERCREDI

De 9h00 à midi se tiennent des séminaires sur le stress et sur l'endodontie chirurgicale. Simultanément ont lieu des conférences cliniques en table ronde pour les étudiants.

TRANSPORT

Exposés, conférences cliniques et expositions ont tous lieu au Centre des congrès de l'hôtel *Four Seasons*. Les organisateurs du Congrès ont réservé des autobus pour les excursions à l'intention des conjoints et des enfants ainsi que pour le rodéo au centre du *Stampede*.

M. Ruben F. Nelson, auteur de l'ouvrage qui s'intitule "*The Illusions of Urban Man*" (Les Illusions du citadin), est un futuriste canadien. Président de la firme *Square One Management Ltd.*, à Ottawa, M. Nelson agit comm conseiller auprès du gouvernement, des universités, des compagnies, des hôpitaux, des églises et des organisations bénévoles. Son travail consiste à aider autrui à envisager, à étudier et à comprendre la nature et les conséquences des changements sociaux, économiques et techniques qui se produisent actuellement au Canada.

Depuis 1972, le Dr Charles M. Sorenson est associé à la firme internationale de consultation, la *Selection Research, Inc.* À la fois psychologue clinicien, conseiller pastoral et conseiller en gestion, le Dr Sorenson aide les personnes et les organisations à réaliser toutes leurs possibilités. Il fera

un exposé sur la gestion d'un cabinet dentaire.

Auteur de plus de trente articles scientifiques, co-auteur de deux ouvrages, professeur et directeur du département de dentisterie restaurative à l'Université de Western Ontario, le Dr Ronald E. Jordan prononcera, dans le cadre du congrès, une conférence sur les principes reçus actuellement dans sa discipline. Le Dr Jordan fait partie du département de dentisterie restaurative à l'Université de Western Ontario depuis 1966.

M. Ray Kelly est un thérapeute athlétique attaché à la Faculté d'Éducation physique et des Loisirs de l'Université de l'Alberta. Il a travaillé avec des équipes d'athlètes aux niveaux local, national, international et olympique. Dans son exposé sur la gestion du stress, il parlera des activités physiques planifiées et de leur rapport

avec la santé affective et le bien-être général de la personne. Plus particulièrement, il fera voir le lien qu'il y a entre les exercices physiques et une profession stressante comme la dentisterie.

Spécialiste agréé en prosthodontie, le Dr Harry L. Gelfant limite son travail aux appareils fixes. Il est chargé de cours honoraire à l'Université de la Colombie-Britannique et y a présenté plusieurs cours au Centre d'éducation permanente.

Le Dr Gelfant donnera un exposé détaillé sur les procédures qu'il a adoptées pour les couronnes et les bridges et que les dentistes peuvent utiliser dans leur cabinet. Il discutera des principes de restauration touchant les couronnes et les bridges, du choix des ancrages, de la préparation des dents et de la réadaptation des patients. Le tout sera illustré au moyen d'exemples de cas.

PROGRAMME CLINIQUE DU CONGRÈS NATIONAL DE L'ADC DU 30 AOÛT AU 2 SEPTEMBRE 1981

LUNDI		MARDI				MERCREDI		POUR LES ÉTUDIANTS CLINIQUES
10h30-11h30 Conférence Grieve Memorial (Dr. C. Castaldi)	9h00-12h00 Symposium (suite) (Doris J. Stiefel) (Stuart L. Fischman) (Leonard B. Smith)	9h00-12h00 Principes actuels en dentisterie restaurative pour le prati- cien général (Ron Jordan)	9h00-12h00 Comment atteindre l'excellence dans la gestion d'un cabinet dentaire (Charles Sorenson)	9h00-12h00 Aperçus pratiques sur les couronnes et bridges; leur application en dentisterie clinique Harry Gelfant)	9h00-12h00 Endodontie chirurgicale (Carl E. Hawrish)	9h00-12h00 Gestion du stress en rap- port avec l'acti- vité physique et les blessures (Ray Kelly)		
DÉJEUNER: 12h00 à 14h00								
LUNDI		MARDI				MERCREDI		
2h00-5h00 Dentisterie pour les handi- capés, présen- tation com- manditée par le Collège royal des dentistes du Canada suite mardi matin	2h00-5h00 Ce qui nous attend (Ruben Nelson)	2h00-4h00 Suite de la séance du matin	2h00-4h00 Suite de la séance du matin	2h00-4h00 Suite de la séance du matin				

Efficacy of Treatment Procedures in Periodontics

Shanley, D.

Quintessence Publishing Co., Inc. 1980.
340 pp.

This well-printed, hard book outlines the proceedings of a workshop held at Trinity College, Dublin University, Dublin, Ireland, December 12-14, 1979; sponsored by the Commission of the European Communities as advised by the Committee on Medical and Public Health Research. This workshop was international in scope, having academic personnel from most of the European dental schools, a few representatives from America and as far away as Hong Kong. The workshop was divided into five sessions.

The first was an appraisal of plaque control as a realistic objective in the community. The current concepts in health education, plaque control, and the implications of antiseptics, antibiotics, enzymes and vaccines in plaque control were discussed.

The second considered the efficacy of periodontal surgical procedures, open curettage and pocket elimination, efficacy of mucogingival surgery, the efficacy of osseous surgery and new attachments as an objective of surgery.

The third session dealt with pathology of diseases of the periodontium and the role of the microflora in periodontal disease, the contained lesion and the progressive lesion on periodontitis, and the host response to dental bacterial plaque.

The fourth session involved discussion of the efficacy of periodontal treatment and analysis of the over-all effectiveness of treatment of periodontal disease — what is the objective of treatment: disease elimination, control or re-

duction?; and the efficacy of occlusal adjustment in periodontal treatment, and educational objectives in relation to provision of care.

The fifth session considered the significance of periodontal pathology and establishment of priorities which include periodontal disease and its systemic implications, the significance of periodontal disease in society and the establishment of priorities in periodontal care.

This book is interesting to read because of the concise reviews of

the literature which were presented, followed by frank and open discussions by the individual workshop members. The conclusions drawn are impersonal and coldly scientific. This tends to produce confidence in the results of a very important and needed workshop. It is my impression that this book should be a must as a reference book to teachers graduate students and all practising periodontists.

This book was reviewed by Dr. D.A. Anderson, Vancouver, B.C.

Temporomandibular joint problems

Solberg, W.K., Clark, G.T.

Biological Diagnosis and Treatment
Quintessence Publishing Co. Inc.
Chicago, Illinois.
177 pages.

This book is a record of the proceedings of the First International Symposium on Temporomandibular Joint Disorders held in February of 1979 in Newport Beach, California. The distinguished panel of contributors had each of their presentations condensed into a chapter covering a different aspect of the subject and each chapter is followed by a brief account of the discussion which took place at the Symposium.

Chapter subjects include Classification and Diagnosis Structure and Function — Normal and Abnormal; Radiology including Arthrography, Occlusion as an aetiological factor and Surgery of Temporomandibular Joint.

The contributors have a wide range of backgrounds in basic science and clinical disciplines and the editors are to be complimented for presenting their dif-

ferent points of view in a relatively concise and readable fashion.

Dr. Mahan's Chapter on Anatomy and Physiology is excellent, well illustrated and should be required reading for anyone interested in this subject. Of particular note is his excellent description of the recent concept of the antagonistic action of the two bellies of the external pterygoid muscle. Plain radiographic examination of the joint is well reviewed. There was general agreement that tomography is the only reliable and easily reproduceable plain radiographic technique. Arthrography remains an interesting subject but requires specialized facilities, large numbers of cases and a clinician who can spend sufficient time to develop expertise in the technique.

Dr. Krogh-Poulsen's Chapter on Occlusion merits careful reading and re-reading by all practising dentists. Interestingly, all references to bruxism in the Index are contained in this Chapter and if there is a theme, it is the role of psychological factors in the production of jaw habits causing joint symptomatology. Many will find his terminology unfamiliar and,

unfortunately, may be discouraged from reading on. I would encourage readers to persist and perhaps begin by reading Dr. Mahan's Summary at the beginning of page 107. It was disappointing to find little or nothing of Dr. Krogh-Poulsen's views on the management of these difficult patients who probably comprise in excess of 50 per cent of temporomandibular joint problems.

Surgery of the joint is discussed by two oral surgeons. Dr. Laskin discounts surgical treatment for pain dysfunction and confines his indications to developmental anomalies, post-traumatic and other arthritides and neoplasms. His account is an over-view of procedures currently practised and makes no attempt to describe the techniques involved. Dr. McCarty advocates a procedure which he calls 'Temporomandibular joint Arthroplasty' for the approximately 20 per cent of the temporomandibular joint patients who do not respond to conservative measures. He makes his case for arthroplasty in a succinct and clear manner but there will obviously be some disagreement as to his indications and some doubts as to the long term benefits of such surgery. The technique is clearly described and illustrated.

Even more controversial is the Chapter by Dr. Hansson on Occlusal Equilibration as a treatment modality in the management of pain dysfunction. Clinical observation simply does not bear out his thesis regarding the relationship between occlusal interferences and clinical manifestations. His use of electromyography is interesting but seems to have very little practical value in sorting out the cause and effect relationship between occlusal equilibration, occlusal dysfunction and the pain dysfunction syndrome.

The Authors succeed in achieving the objectives listed on the fly leaf of this text; they are as follows:

1. To correct the erroneous notion of temporomandibular joint syndrome as a functional disorder

2. To establish an understanding of normal and abnormal joint morphology and function
3. To relate these morphologic changes to dysfunction
4. To emphasize the need to establish a precise diagnosis before implementing treatment.

Building assertive skills

Morton, J.C.; Richey, C.A., and Kellett, M.

C.V. Mosby Company,
St. Louis, Missouri.
283 pages
\$15.75.

Building Assertive Skills was written specifically with today's allied dental health professionals in mind.

In the modern dental office patient care and motivation is being shared more and more by dental auxiliary. As well, there are the day-to-day challenges of communication between office staff. As a result, being an effective communicator and handling these new challenges and problems becomes a major hurdle for some. Although the cover states it is aimed at allied dental health providers, dentists will also find it useful since the basis of communication skills is the same for everyone.

The writers surveyed allied dental health providers to define areas of concern and then addressed chapters to many of these specific issues, using realistic examples from the dental office environment.

The format is readable and takes the form of a self-instructional guide and workbook. Most chapters include exercises and activities designed to help the individual to further understand and apply the ideas and skills to everyday living. Questionnaires exercise assignments, suggestions and the repetition of new concepts are used to maximize the benefits of assertive behavior for the reader.

An extensive pre-training self-assessment exercise to ascertain personal strengths and weaknesses and a guide on developing

This book is a worthwhile addition to the library of any dentist interested in this subject.

Temporomandibular Joint Problems was reviewed by Dr. G. Allan Taylor, Chief of Plastic Surgery, Ottawa Civic Hospital.

an individual step-by-step program on ways to overcome those weaknesses, as well as continuing progress reports, help to tailor programs to the needs of the individual. The index is extensive and seven appendices include extra worksheets, a recommended reading list and suggestions of what to look for in community training and counselling resources. The authors have tried to think of everything!

The book emphasizes that to be assertive is to express ideas, opinions or feelings in ways that are clear as well as respectful of others. The major areas covered are; understanding verbal and non-verbal behavior, saying "no" when you want to say "no", dealing with criticism from others, expressing negative concerns and coping with unpleasant situations or adverse reactions from others. The over-all content can be obtained from any number of other sources, but the writers' dental examples are useful to those of us who wish to apply the objective information to our personal situation. The self-evaluation exercise are a bonus and an aid in assessing our progress.

This book may be useful in the social science curriculum for dental auxiliaries, as well. A chapter has been included on how to use the book in a group setting. Role playing, with a suggested script provided, is encouraged to help individuals practise acting and reacting, both verbally and non-verbally to situations they found difficult in the past.

Building Assertive Skills was reviewed by Dale Scanlan, a Registered Dental Hygienist at the Children's Hospital of Eastern Ontario in Ottawa.

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Periodontosis

(Part 1: Review of literature; discussion)

Robert F. Harvey, DDS, FRCD(C), FACD, FICD
Montreal

In his classic articles of 1920¹ and 1923², Gottlieb reportedly described a condition which he termed "Diffuse Atrophy of the Alveolar Bone". Characteristics of the condition included atrophy of the alveolar bone, widening of the periodontal membrane and destruction of the cementum. He pointed out that the viability of the cementum was essential for health and repair of the periodontium following injury. Another important feature of the condition was the absence of inflammation in the initial stages.

In 1940 Thoma and Goldman³ described the radiographic changes which occur in "Paradontosis", apparently the same as Gottlieb's Diffuse Atrophy of the Alveolar Bone; deep vertical pockets develop about the anterior teeth preceded by destruction of the collagen fibres of the periodontal membrane. They described changes in the cementum, connective tissue and bone similar to those described by Gottlieb and also discussed the elongation of the involved teeth as being caused by the resultant enlargement of the periodontal membrane at the apices.

In 1941 Miller et al⁴ studied 35 cases of what they classified as Precocious Advanced Alveolar Bone Destruction in young individuals ranging in age from 14 to 30 years to determine whether systemic abnormalities could be detected. They reported the female to male incidence of the condition as 10:1. Oral radiographs were characteristic in that "... extensive alveoclasia was seen chiefly in

the incisor and first molar regions, both maxillary and mandibular. Radiograms of the skeletal bones revealed no discernible aberration from normal. The onset of the disease appears to occur at puberty, or in males, a trifle later." Laboratory findings were apparently inconclusive.

In 1942 Orban and Weinman⁵, based on a study of two skulls, termed the condition "Periodontosis". They suggested three stages of development: (1) degeneration of the principal fibres of the periodontal membrane and resorption of the alveolar bone which resulted in widening of the periodontal membrane space; (2) proliferation of the epithelial attachment along the root surface; and (3) the separation of the proliferated attachment from the surface of the tooth with development of inflammation.

In 1948 Miller⁶ termed the condition "Precocious Advanced Alveolar Atrophy" stressing that it affected young adults, with females predominating. In older patients he described a more diffuse pattern of bone loss, whilst in the young, only the first molars and incisors were involved. He proposed three sub-classifications; Class I: involving only the first molars and incisors; Class II: involving the canines, bicusps and second molars; and Class III: a combined classification involving all teeth. His laboratory studies suggested that there existed "... an elevated serum cholesterol and serum calcium and a flattened sugar tolerance curve." The patients studied also appeared to favor a high carbohydrate diet. As to why the first molars and anterior teeth were characteristically involved in Class I, he suggested that this could be associated with the child entering school at the time of eruption of the involved teeth (age 5 to 7) and with the emotional upset encountered, resulting in clenching and grinding of teeth; should such emotional upset be more pronounced from 9 to 12 years of age, then other teeth would be involved.

Also in 1948, in his address accepting the Jarvie Fellowship Award⁷, Box, discussing Periodontitis Complex*, stated that "... the prevailing teaching avers that the primary and deeper destructive changes (in Periodontitis

*Periodontitis Simplex refers to chronic slow destruction of the periodontium caused by inflammation — comparable to Chronic Inflammatory Destructive Periodontitis; Periodontitis Complex indicates the presence of deep "vertical" pockets.

ABSTRACT

Periodontosis is defined in this and subsequent articles as being a disease of young adults characterized by severe and rapid destruction of the periodontium; it appears to be more common amongst females and black races, onset occurring in the circumpubertal period. Bacteria, the immunological process and heredity all appear to play a role in the development of the disease with degeneration being the most dominant early pathological characteristic. With a clinical picture quite different from that of periodontitis, "periodontosis" would appear to be an acceptable word to describe this specific clinical disease.

Complex) are caused by systemic toxins or metabolic disturbances." He, however, believed that the source of the breakdown occurred within the pocket and was initiated by "... a necrotizing agent containing enzymes (which) is elaborated in the pocket, or its soft tissue wall and that this toxic material infiltrates to the underlying connective tissue." He postulated that such enzymes could be produced by "fungus-like filamentous organisms" and that possibly necrosin produced by injured epithelial cells might also contribute to the toxic destruction of the underlying connective tissue. Studying serial sections, he observed "necrotic tracts" penetrating the deeper tissues noting that wherever they coursed, destruction of cementum, bone, connective tissue and cells occurred. He also observed that whenever these "necrotic tracts" approached the epithelial cell rests of Malassez, the latter appeared to be reactivated, producing granules which he presumed to be keratin. Nowhere in this article does he term the condition "Rarefying Pericementitis Fibrosa" nor implicate occlusal trauma as producing inflammation as reported in the literature.⁸

His description of the clinical changes was given in great detail; he noted small areas of various shapes which had lost their stippling, becoming smooth and shiny; "... the color may differ very little from the neighboring stippled surface, but it is frequently slightly cyanotic." He also described the "... appearance in the more remote gingival tissues of distended vessels of reddish-blue or bluish color which extend into the oral mucosa" and noted that at the bottom of the pockets which were "active", no calculus was present.

Regarding therapy, Box stated that "Clinical experience has verified the early observations of Black that, in certain cases, thorough subgingival scaling is not followed by a cessation of the destructive process." He discussed the use of germicidal cements to sterilize pockets but felt that perhaps the use of ionization would result in better penetration of the tissues.

He concluded that although local therapy is imperative in the treatment of Periodontitis Complex, "... it must not be the thought, however, that systemic predisposing factors are, on this account, diminished in importance. We are concerned with a seed-soil relationship, and must be vitally interested in all causes, local and systemic, that make the tooth-sulcus region susceptible."

In 1950 a comprehensive report of the microscopic changes in the gingivae of periodontosis patients was presented by Tenenbaum et al⁹; they reviewed earlier reports of Gottlieb, Orban, Thoma, Becks, Kronfeld and others stating that there was "... general agreement that the main characteristics of the disease in the early stages are atrophy of the alveolar bone and a widening of the periodontal membrane due to degeneration of its principal fibres. At this stage there is no inflammatory reaction in the gingivae. Later the pockets that form become excellent sites for the accumulation of food debris and calculus,

and for the growth of micro-organisms. As a result of mechanical irritation and bacterial toxins, inflammation is initiated in the connective tissue and epithelium of the alveolar gingivae. This inflammation is considered a later secondary pathologic condition." Twenty-eight cases were selected from the dental clinic which included young individuals showing characteristic patterns of bone loss, those with minimal (obvious) local factors present, and those patients whose condition did not improve in spite of continued periodontal treatment. Sixteen of seventeen under 32 years of age were female, confirming their previous experience. Comparing microscopic studies of gingival papillae between healthy and periodontosis patients, the latter were divided according to (1) little, (2) moderate, and (3) heavy cellular infiltration in the subepithelial tissue. In Group (1) cases little or no calculus was present despite the presence of diastemata; typical bone loss patterns were evident. The majority of Group (2) cases had calculus deposits as well as typical bone loss patterns. And in Group (3) cases — the most advanced — secondary inflammation was evident; there was also an "... almost complete breakdown of the alveolar process (with) relatively more alveolar bone remaining around the mandibular bicuspid teeth."

Their conclusions (in part) were as follows: "Periodontosis is a disease that occurs predominantly in females during adolescence and early maturity. In the early stages, the clinical appearance of the gingivae is normal. Movement of the maxillary and mandibular incisors with resulting diastemata is often the first clinical symptom. As the disease progresses the gingivae retain their normal appearance, and the maxillary incisors become elongated and protrude labially so that the cementum is exposed. Since bone is lost and the teeth move at a relatively early age, local factors are introduced — such as open contacts, food impaction areas, traumatic occlusion, calculus and bacterial accumulations — which aggravate the condition, causing inflammation and further loss of the supporting tissues.

Roentgenographic examination of adolescent patients in this study revealed a loss of alveolar bone that generally conformed to a definite pattern. This consisted of an arc of bone loss from the mesial surface of the second molars to the distal surface of the second bicuspid. There was loss of alveolar bone around the incisor teeth that had migrated. The alveolar bone crest showed a thinning in many areas. Alveolar bone about the bicuspid teeth, especially in the mandible, showed the greatest resistance."

In 1955 Box¹⁰ reclassified periodontal disease into (1) Simplex Periodontitis, which involved the development of periodontitis usually from gingivitis, exhibiting more or less horizontal breakdown of the bone, with the usual local aetiological factors being present; (2) Necrotic Periodontitis, which referred to the previous studies where deep vertical type pockets developed in mouths with minimal plaque and no calculus or caries present. This condition

he believed was not too common but when it did occur, it developed into (3), Complex Periodontitis. Here the Necrotic Periodontitis has been complicated by the addition in time of calculus, inflammation and caries. It would appear that Necrotic Periodontitis and Complex Periodontitis describe conditions similar to Periodontosis; Necrotic Periodontitis being the early stage of Periodontosis, which becomes Complex Periodontitis with the introduction of secondary inflammation.

In 1958 Orban, Wentz, Everett and Grant¹¹ discussed the possible role of heredity and developmental factors related to periodontosis. Concerning inherited tendencies they state that "It is... known that certain organs in our bodies might have an inherited inferior development," and it is possible that "... an inherited inferiority of the periodontium may exist in certain individuals." Regarding developmental disturbances, they state "Many times in... cases of periodontosis, the teeth show signs of enamel hypoplasia. This is true also for the group with single-tooth involvement." They further state that "It has been observed occasionally that teeth affected by periodontosis have roots that appear rather thin as compared with those of unaffected teeth. This might indicate that, concurrent with, or because of, altered development of the dental epithelium, dentinogenesis might also have been affected."

Hiatt and Burrows (1965)¹² also believe that the aetiology of periodontosis may be hereditary or congenital; they state "... the head ectoderm gives rise to the epidermis of the head and neck and, through the neural crest cells, it apparently gives rise to a number of periodontal structures which are connective tissue derivatives." They further state that "If some congenital defect, or perhaps a viral infection, occurred in the ectodermal stem cells which eventually produce the periodontal structures and the epidermis of the skin, patients with periodontosis might be expected to exhibit dermatological pathosis also. In a limited number of juvenile patients, such a concomitant occurrence has been observed."

In 1961, Harvey¹³ described a case of a 32-year-old male with what was tentatively classified as Necrotic Periodontitis (Box) but which today could be classified as a generalized form of Periodontosis which responded dramatically to antibiotic therapy. He stated that "... Box was one of the first to suggest that organisms may be the primary factor in certain types of so-called chronic periodontal diseases. Where organisms may be the primary factor, the use of an antibiotic over a period of time would certainly destroy them or at the very least reduce their pathogenicity. They could be replaced by other organisms which might not be pathogenic to the particular individual."

A comprehensive review of the literature was presented in 1968 by Kaslick and Chasens¹⁴; in Part I they reviewed, analysed and commented on the observation of Gottlieb, Orban, Thoma, Goldman, Weinman, Fish, Box, Miller,

Becks, Williams, Ramfjord, and others as well as reporting on the methodology used in a study of six patients from the armed services of the U.S. suffering from what they termed "Periodontosis with Periodontitis". In Part II they reported on clinical, medical and histopathologic studies involving 27 young adult male army recruits (aged 19 to 27 years) suffering from "Periodontosis with Periodontitis". They stated that "The clinical entity called periodontosis can be identified by early mobility and/or migration of teeth in young persons (from puberty to the age of 30 years) who are in apparent good health. There is appreciable alveolar bone loss, with little inflammation of the gingiva at first. Only somewhat later is there gingival inflammation with rapid development of deep periodontal pockets. At this time the periodontosis is considered to be complicated by periodontitis." (Apparently identical to Box's Necrotic Periodontitis which develops into Complex Periodontitis). They further state "Although there is some general agreement that periodontosis is a clinical entity, there is less agreement on some of the clinical findings and still less on the histopathologic aspects of the condition. The majority of investigators, however, have found histopathologic changes in which degeneration is the dominant feature."

Their findings regarding calculus formation agreed with the literature in that "... the most common type was the pattern showing little or no deep subgingival calculus. The other type showing heavy deposition of deep subgingival calculus, was generally associated with a milder form of "periodontosis with periodontitis... and made up only a relatively small percentage of the total cases.

As a total group, those subjects with the least deep subgingival calculus most often had the most severe bone loss but the smallest degree of clinical inflammation of the gingiva." They also noted that Blacks "... most often had the most severe bone loss... appreciable mobility of the involved teeth was an early and consistently observed sign in virtually all of the cases... an interesting finding in some of the cases was a 'mirror image' pattern... occlusal discrepancies, in general did not seem to play a primary role..." No abnormalities in the medical studies were found in the majority of the cases. (These consisted of chest film, complete and differential white blood counts, urinalysis, sedimentation rate, and hemoglobin and hematocrit determinations. In 16 of the cases, further tests were also performed including tests for fasting blood sugar, uric acid, inorganic phosphorus, calcium and potassium.)

In 1971 Baer¹⁵ enumerated seven features in periodontosis: (1) Onset during the circumpubertal period; (2) Three to one female to male incidence; (3) Familial tendency; (4) Minimal local aetiological factors present; (5) Distinct radiographic pattern of bone loss; (6) Rapid rate of progression and (7) Lack of effect on the primary dentition.

Baer felt that migration of teeth was a later manifestation of the disease, contrary to the opinions of other investigators. Comparing periodontosis to periodontitis, he stressed that the usual pattern of periodontal disease about the circumpubertal period was an inflammatory response with enlargement — the opposite to that which occurs with periodontosis — and that this gradually developed into a periodontitis when untreated.

He noted that in classical cases the bone loss was bilateral, although in the early stages it could be confined to one surface of one first molar, and that this was usually the mesial, although the distal was occasionally the first involved. In the discussion following Baer's presentation, Socransky remarked that one could not determine the pathogenicity of plaque merely by looking at it, that the familial pattern suggested could be explained by the organisms being passed back and forth between members of the same family, that one could have massive amounts of plaque such as with circumpubertal children, but that the organisms may not necessarily be very virulent. He concluded with "We have tended to equate, for some reason, inflammation with bone loss. I wonder if it isn't an inverse relationship. I wonder if the inflammation would not be a relatively protective type of mechanism for the host."

In 1973 Harvey¹⁶ implicated the bacterial component when he illustrated a case of periodontosis of an 11½-year-old girl with severe destruction of the periodontium about a first molar which responded dramatically to curettage with Spiramycin coverage: all four first permanent molars were involved and all responded equally satisfactorily.

In 1974 Lehner et al¹⁷ termed the condition Juvenile Periodontitis bringing attention to the immunological factor with impairment of lymphocyte response to gram negative organisms. In conclusion they state "Juvenile Periodontitis can be interpreted as a disease comparable to severe chronic periodontitis in the adult, in whom a disassociation between lymphocyte transformation on the one hand and lymphocyte cytotoxicity and migration inhibition activity on the other has been found (Ivanly et al 1972¹⁸). However, the inability of lymphocytes to respond to some gram negative bacteria and plaque antigens is manifested early in life, whereas in severe periodontitis this defect appears to develop late in life, as a consequence of a serum inhibitory factor."

During the past decade much interest has been aroused regarding the micro-biology of periodontosis; serious attempts are being made to identify organisms located at the base of pockets and to clarify their role in the pathogenesis of periodontosis.^{19 20 21 22 23 24}

In 1976 Melnick et al²⁵, reporting on a study of two families, stated "Two families who provide additional data concerning the metabolic, radiographic, and clinical parameters of periodontosis are presented. These findings include decreased serum alkaline phosphatase levels with

absent liver isozyme fractions, decreased tubular bone over-all width and medullary space with relatively increased cortical area, and at least one case of primary dentition alveoclasia with no permanent dentition alveoclasia. In addition, a segregation analysis was performed on these two families and all completely reported families found in the literature. The results indicate that periodontitis is most probably inherited as an X-linked dominant trait with decreased penetrance but relatively consistent gene expressivity. The female:male ratio of affected persons is approximately 2:1, and there is an over-all deficiency of males in these affected families." They questioned whether periodontosis affects only the permanent dentition suggesting that similar conditions occur with the deciduous dentition but with no affect on the permanent and suggest that "... it would appear that juvenile alveoclasia is not a separate entity but merely part of the variable expressivity common to many dominant disorders."

In 1977 Sugarman²⁶ reviewed the literature and presented five cases which had responded to local therapy and proposed the name "Precocious Periodontitis", as it "... has been suggested because the disease entity differs from chronic periodontitis in some of its characteristic features and etiologic factors. Three important local etiologic factors are: (1) contact and eruption of the first molars, (2) occlusal traumatism, and (3) ineffective oral hygiene."

In 1978 Vogel and Deasy²⁷ suggested the term Destructive or Idiopathic Juvenile Periodontitis; they stated in part, "Although initially described as a degenerative non-inflammatory disease, recent evidence suggests that Periodontosis is inflammatory, with virulent gram negative micro-organisms, selective immune deficiencies, dysfunction of polymorphonuclear leukocytes, genetic predisposition or any combination of these as possible etiologic factors. Several authors have, therefore, advocated replacing the term periodontosis, which implies a degenerative disease, with destructive or idiopathic juvenile periodontitis. Although various treatments have been proposed, definitive therapy for the disease depends on the future elucidation of the specific factors."

In 1979, Chan et al²⁸ demonstrated the higher numbers of *B. melaninogenicus* and *B. asaccharolyticus* and gelatinase producers in diseased sites in periodontosis compared to non-diseased sites. Impressive reduction of these bacteria occurred with the administration of the antibiotic Spiramycin.

DISCUSSION

A careful review of many of the classic articles concerning periodontosis and of many that have followed indicates to the author that to the present, there is nothing precise or clear about periodontosis; there is no unanimous agreement concerning local and systemic factors present or contributing to the disease; there is no unanimous agreement as to whether we are dealing with a dys-

trophic non-inflammatory disease or a locally induced inflammatory disease — hence the confusion regarding the selection of a proper name for the condition, should such a specific condition exist.

Is Periodontosis Non-Inflammatory?

Support for the belief that we are dealing with a non-inflammatory condition comes in many ways. The classic histological work failed to demonstrate the presence of inflammation until the latter stages of the disease, as well as the lack of pocket formation until considerable loss of cementum and alveolar bone had occurred.

As classic cases involve only the first permanent molars and the incisor teeth, frequently with associated abnormalities of root/crown development, one appears justified in presuming some developmental or hereditary defect is present. As the disease tends to frequently occur within the same family, one appears justified in presuming that there is an hereditary factor present. As the disease is reported to be more common in the female in the circum-pubertal period (female:male occurrence from 94:1 to 3:1 to simple majority) then one appears justified in presuming the presence of an hormonal and/or a sexual factor.

The absence of clinical signs of inflammation in the early stages of the disease lends credence to the belief that we are not dealing with an inflammatory condition resulting in pocket formation. Again the "arc" type of bone destruction about the first molars, extending from the distal of the second bicuspid to the mesial of the second molars would appear to be specific to periodontosis.

Clinically the lack of visible plaque and absence of calculus are characteristics of the classical case although not necessarily a feature of atypical or advanced cases; this associated with the rapid rate of the destructive process makes one suspect some "systemic" weakness.

Treatment in the past has been generally one of submission to the disease: remove the offending teeth before destruction spreads to involve the proximal teeth. Evidence of the value of such a procedure is available in numerous cases where the first molar has been removed; no further breakdown of the alveolar bone occurs and the second bicuspid and second molar appear to remain healthy. Such evidence lends further credence to the belief that we are dealing with a dystrophic condition. Early attempts at the use of bone implants combined with surgical flap procedures about involved first molars produced unsatisfactory results; on the other hand, transplantation of unerupted third molars into the first molar sites following removal of the diseased tooth appear to "take".

Is Periodontosis Inflammatory?

Support for those who believe that we are dealing with a locally induced inflammatory disease is equally convincing. The failure of early histological sections to demonstrate pocket formation can be explained by the failure

to use serial sections. The destruction "atrophy" of cementum, alveolar bone, connective tissue and cells as originally described could be explained by the penetration of by-products of bacteria resulting in tissue lysis as well as by local "Hari Kari". The lack of classical signs of inflammation can be explained by the failure to recognize the presence of inflammatory cells and/or a preponderance of anti-inflammatory steroids present (compared with pro-inflammatory).

As the condition responds to antibiotic therapy, it is possible that various immunological "deficiencies" may be explained by more virulent types of organisms present. The characteristic bone loss about the first molars could be explained by traumatic occlusal forces present about the time of eruption leading to migration allowing food impaction; microbiologists could argue that the tendency to run in families can be explained by the passing back and forth of micro-organisms between members of the same family. The first molar-incisor destructive pattern could be an indication of the time of the initial infection associated with the period of eruption.

The absence of clinical signs of inflammation and pocket formation can be explained by the failure to recognize the early signs of pathology, including oedema, color changes and loss of stippling, as described by Box^{7,10}. The "elimination" of the disease by extracting the first molars can be explained by the removal of the offending organisms along with the tooth; it is accepted that plaque organisms vary microns apart even on the same tooth so unless healthy sites are contaminated with organisms from the diseased site, then progression of the condition could cease. The fact that the condition is more common in females can be explained by the more diverse endocrinological changes to which they are susceptible; add to this, recent work of Loesch and Kornman* which indicates that there is a marked increase in *B. melaninogenicus* between the third and sixth month of pregnancy, then one can surmise there could also be a tendency for the oral microbial flora to change at the time of puberty resulting in tissue destruction. Recent work by Chan et al²⁸ indicates that rather than specific organisms causing specific periodontal disease such as periodontosis, an upset in the balance of groups of organisms may be of more importance. For example, the increase of "gelatin loving" organisms may certainly play a role in periodontosis. Work to be published indicates a sharp reduction of these with Spiramycin therapy.

SUMMARY

It is recognized that the term "periodontosis" may indicate a dystrophic or non-inflammatory condition whereas it has been and will be shown in future articles that the use of antibiotics can arrest the condition indicating very

*Loesch, K.S. University of Michigan, Kornman, K.S., University of Connecticut Health Center: Personal Communication.

clearly there is a most important bacterial component present in the pathogenesis of the disease.

The terms "Diffuse Atrophy of the Alveolar Bone" and "Precocious Advanced Alveolar Atrophy" are names which should be discarded as, in the opinion of the author, the condition is not one of "atrophy". The term "Paradontosis" is a European term to indicate a chronic inflammatory periodontitis when more than three or four millimetres of bone have been lost. The terms "Precocious Periodontitis," "Juvenile Periodontitis," "Destructive Juvenile Periodontitis," and "Idiopathic Juvenile Periodontitis" all indicate an inflammatory condition disregarding the possible role of systemic conditions and are therefore unsuited in the opinion of the author to describe the condition. The term "Periodontitis Complex" probably most accurately describes the condition allowing for both inflammatory and dystrophic theories. Unfortunately, if used, it would probably be confused with periodontitis with secondary occlusal trauma.

In view of the foregoing, and as the term periodontosis is recognized by most as being "a severe and rapidly destructive disease of the periodontium of young adults", and distinctly different from periodontitis, the term periodontosis will be used in this and in future articles until more accurate scientific knowledge is acquired. Semanticists in the future will then be able to provide an accurate descriptive title.

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Verruciform Xanthoma of the oral mucosa is a distinctly uncommon clinical entity. The seven cases presented here bring to 34 the total number of cases provided in the literature. A clinico-pathologic study of the seven new cases, along with a review of the 27 previously documented cases is provided.

Verruciform Xanthoma of the Oral Mucosa

Report of Seven Cases and Review of the Literature

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To date, only 27 cases of intraoral Verruciform Xanthoma (VX) have been documented¹⁷. This rare, benign lesion, previously reported to occur only in the oral cavity, was first described by Shafer in 1971¹. The first description of two extraoral sites, both occurring on the vulva, was documented by Santa Cruz and Martin in 1979.⁸

CLINICAL FEATURES

Generally VX appears as a small, solitary, slightly raised lesion, having either a sessile or pedunculated base. Occasionally, however, it may present as a slightly depressed³ or crateriform lesion⁴. Due to its granular or papillomatous surface it has frequently been described as "cauliflower-like" or "wart"; frequently the clinical diagnosis is one of papilloma or verruca vulgaris. Verruciform xanthoma may be the same color as the surrounding mucosa, or it may range in color from grayish white to yellowish red⁵ to moderately red. This lesion occurs predominantly on the gingival or alveolar mucosa (Table 1). All reported cases of VX, with the exception of the 1.5 by 4.0 cm lesion documented by Graff et al⁷ have been small, varying in size from 0.2 to 2.0 cm. From Table 2 it is evident that there does not seem to be a sex preponderance, that the lesion occurs with greater frequency in persons of both sexes over the age of 40, and that 33 of the 34 reported intraoral cases have occurred in Caucasians.

Verruciform xanthoma, unless traumatized, is asymptomatic and therefore of unknown duration to the patient. Since there are no prodromal symptoms most cases are detected by the dentist during a routine oral examination. Several of the reported intraoral cases, however, have had a known duration of two to five¹ years; one vulvar lesion had a duration of 17 years⁸. This seems to indicate that VX is a slow growing lesion, exhibiting no propensity for malignant change.

REPORT OF CASES*

Of the seven cases reported, four are from the files of the Department of Oral Pathology, Georgetown University School of Dentistry (GUSD), and three from the files of the National Naval Dental Center (NNDC), Bethesda, Md.

Case 1 (NNDC). — A 42 year-old white male exhibited a round, raised, slightly pink 0.3 — 0.4 cm lesion having a "sandpaper-like" texture. The lesion was located on the soft palate 1.0 cm medial to the anterior tonsillar pillar. The patient's medical history was non-contributory.

Case 2 (NNDC). — A 51-year-old white male presented with a slightly elevated, papillomatous, whitish lesion on the maxillary attached gingiva in tooth No. 4 area. The clinical impression was hyperkeratosis. The patient's general history was non-contributory except for a history of Peyronie's disease and Dupuytren's contractures of the right hand.

Case 3 (NNDC). — A 46-year-old white male had an asymptomatic, rough, whitish, papillomatous lesion on the left floor of mouth. It was noted on routine examination and was of unknown duration.

Case 4 (GUSD). — A 72-year-old white female presented with a 1.5 x 1.0 cm white, elevated, soft, mobile lesion involving the left mandibular alveolar mucosa and mucobuccal fold in tooth No. 18 — 19 area, present for 1½ years.

Case 5 (GUSD). — A 40-year-old white male exhibited a 0.6 cm slightly depressed, apparently hornified lesion on the left maxillary attached gingiva 0.1 cm below the free gingival margin of the first molar. The lesion had been present for several weeks without change. The patient's general history was non-contributory.

*Case 6 was submitted by Dr. Gerald Rothman, Alexandria, Va.

Case 6 (GUSD). — A 44-year-old white female had a 0.4 x 0.4 cm firm, red mass located on the mucosa under a bridge pontic replacing tooth No. 12. This mass had increased in size over the previous several months. The patient's medical history was non-contributory.

Case 7 (GUSD). — A 44-year old white female presented with a white, papillomatous lesion of unknown duration at the junction of the hard and soft palate. The patient had lymphosarcoma at the base of the tongue five years earlier.

Laboratory tests for serum lipase, serum cholesterol, and blood glucose were conducted in Case 2 only and were within normal limits.

The fat content of the xanthoma cells could not be evaluated since in every instance the diagnosis was not suspected and the complete tissue specimen had been paraffin-embedded for routine histopathologic evaluation.

HISTOPATHOLOGY

Verruciform xanthoma presents a papillary or verrucous surface, covered by a layer of parakeratin of variable

thickness. The crypts, formed between the papillary projections, are plugged with parakeratin (**Fig. 1**); colonies of micro-organisms may be seen within the crypts and on the surface of the lesion. The epithelial rete ridges exhibit uniform acanthosis (**Fig. 1**) and, confined to the connective tissue papillae between the rete ridges, large foam cells are evident (**Fig. 2**).

The "outstanding characteristic" of the lesion that Shafer¹ described was that the foam or xanthoma cells were confined to the connective tissue papillae between the epithelial rete ridges and did not extend beneath the level of the elongated rete ridge tips.

An unusual observation noted by Cobb et al⁵ was the migration of foam cells into the germinal layer of the overlying epithelium. A mild infiltrate of neutrophils is evident within the epithelium and, subjacent to the epithelium, there may be a mild to moderate infiltrate of chronic inflammatory cells. Staining of the foam cell cytoplasm with P.A.S. has revealed the presence of P.A.S. positive granules¹⁻³. Electron microscopy and frozen section lipid studies, conducted initially by Zegarelli and associates^{3,4}

Table 1
Intraoral Sites of Verruciform Xanthoma

	Total No. of Cases	Mand. Alveol. Mucosa	Mand. Mucobu. Fold	Bu. Muc.	Palate	Soft Palate	Jt. Hard & Soft Palate	Floor of Mouth	Lip	Max. Gi.		Mand. Gi.	
										Ant.	Post.	Ant.	Post.
Shafer, 1971	15	7	1		2			2	1			2	
Miller et al, 1973	6	1									2		3
Zegarelli et al, 1974	2											2	
Zegarelli et al, 1975	1										1		
Cobb et al, 1976	1										1		
Smith et al, 1977	1												1
Graff et al, 1978	1*	1	1	1									
Platkaj et al, 1979	7**	1	1			1	1	1			3		
Total	34***	10	3	1	2	1	1	3	1		9	2	4

* This lesion extended from the attached gingiva, adjacent to the buccal aspect of the mandibular right second premolar, down through the mucobuccal vestibule to above the plane of occlusion on the buccal mucosa.

** The lesion on the mandibular alveolar mucosa extended into the mucobuccal fold in tooth no. 18-19 area.

*** Total number of sites exceeds the total number of cases due to multisite involvement.

and later Cobb et al⁵, have identified the foam cells as lipid-laden tissue macrophages.

ETIOLOGY

The etiology of this entity is still obscure. Ultrastructural examination of all cases (4) of VX reported by Zegarelli et al^{3,4}, and later Cobb and associates⁵ revealed foci of severe epithelial degeneration. Therefore these investigators hypothesized that the lesion must be inflammatory in origin, probably initiated in the epithelium rather than in the mesenchymal tissues. Zegarelli and associates⁴ speculate that the logical sequence of events leading to the formation of foam cells is:

- (a) epithelium is entrapped between the epithelium lined crypts,
- (b) this entrapped epithelium degenerates with the eventual formation of lipid,
- (c) the products of this epithelial breakdown evoke an inflammatory response,
- (d) the inflammatory response consists of a mild, predominantly neutrophilic infiltrate in the epithelium and a predominantly chronic inflammatory cell infiltrate subjacent to the epithelium, and
- (e) foam cells accumulate between the epithelial ridges at the sites of lipid permeation.

The factor, however, that initiates this “inward growth” of epithelium remains to be determined.

In view of the fact that there appears to be no association of VX with any systemic disease and that the results of all reported hematologic studies, including glucose, cholesterol and triglyceride levels, have been within normal



Fig. 1A and B. Photomicrographs exhibiting verrucous epithelial proliferation with uniformly elongated rete ridges and hyperparakeratosis with parakeratin plugging of the crypts formed between the papillary projections. (H and E stain. Magnification of 1A 100X, 1B 63X).

Table 2								
Distribution of Verruciform Xanthoma According to Age, Sex and Race								
	Total Cases	Male	Female	Age Range	Under Age 40	Mean Age	Cauc.	Black
Shafer, 1971	15	7	8	27-67	2	50	15	0
Miller et al, 1973	6	2	4	29-80	1	50	6	0
Zegarelli et al, 1974	2	2	0	18-31	2	25	2	0
Zegarelli et al, 1975	1	1	0	29	1	29	1	0
Cobb et al, 1976	1	1	0	21	1	21	1	0
Smith et al, 1977	1	0	1	47	0	47	1	0
Graff et al, 1978	1	0	1	37	1	37	0	1
Platkajs et al, 1979	7	4	3	40-72	0	48	7	0
Total	34	17	17		8		33	1

limits³⁻⁵. Zegarelli and associates have suggested that the etiologic agent most likely is a "local irritant"⁴. The mild inflammatory infiltrate of neutrophils and lymphocytes, the lipid filled macrophages, and the predominant occurrence of the lesion on the masticatory mucosa all tend to support this viewpoint. Santa Cruz and Martin⁸, however, speculate that despite the lack of intraepithelial inclusions and pronounced vacuolation a viral etiology cannot be excluded. They, therefore, suggest that future ultrastructural examination of the epithelial cells of the upper stratum malpighii for the presence of viral particles be conducted. Previous ultrastructural studies of VX by other investigators have focused only on the nature of the xanthoma cells.

DISCUSSION

Presented are seven cases of VX. The clinical and light microscopic features of the seven reported cases are similar to those previously reported by other investigators. This rare, benign, asymptomatic, slow growing lesion is usually detected as an incidental finding during a routine oral examination. Clinically VX presents as a slightly raised or slightly depressed^{3,4} lesion, having an irregular papillomatous surface, and varying in color from normal to gray to moderately red. Reported clinical impressions of the nature of the lesion have included papilloma, papillomatosis, verruca vulgaris, and fibroma. Smith et al⁶ suggest that, in view of the verrucous nature of this entity, verrucous carcinoma should be included in the list of differential diagnoses. Prior to 1979 the CX was identified only in the oral cavity; recently two cases of VX have been documented on the vulva⁸. The clinical impression of one of the vulvar lesions was epidermoid carcinoma, whereas the other was thought to represent condyloma acuminatum.

Verruciform xanthoma appears with equal frequency in both sexes. A definite increase in the occurrence of VX is evident in individuals over the age of 40 (76 per cent). With

the exception of the one case reported by Graff et al⁷, all intraoral lesions occurred in Caucasians; of the two reported vulvar lesions, however, one was in a black patient.

Verruciform xanthoma appears in a variety of intraoral sites but is seen with greatest frequency on keratinized mucosa, mainly on the gingiva and alveolar mucosa. Of the 15 gingival lesions, 13 (87 per cent) occurred in the bicuspid — first molar area.

Hematologic investigations for lipid and glucose levels, where performed, have all been within normal limits. To date, there is no evidence of a correlation between VX and a systemic condition.

The histologic features of the lesion are diagnostic and are characterized by: (a) verrucous epithelial proliferation with uniformly elongated rete ridges, (b) hyperparakeratosis with parakeratin plugging of the crypts formed between the papillary projections, and (c) the presence of xanthoma cells within the connective tissue papillae between, but not beneath, the level of the rete ridges.

Previous investigators, using lipid stains and ultrastructural studies have demonstrated that the foam cells are lipid laden macrophages.

Histologically VX must be distinguished from papilloma, verruca vulgaris, granular cell tumor, verrucous carcinoma, and xanthoma.

Treatment consists of simple surgical excision, and there appears to be no tendency toward recurrence.

Zegarelli et al^{3,4} and later Cobb et al⁵ hypothesized that VX is inflammatory in origin and that epithelial breakdown, probably due to some local irritant, could elicit a foam-cell response. Santa Cruz et al⁸, however, point out that a viral etiology cannot be excluded without further ultrastructural studies of the stratum malpighii.

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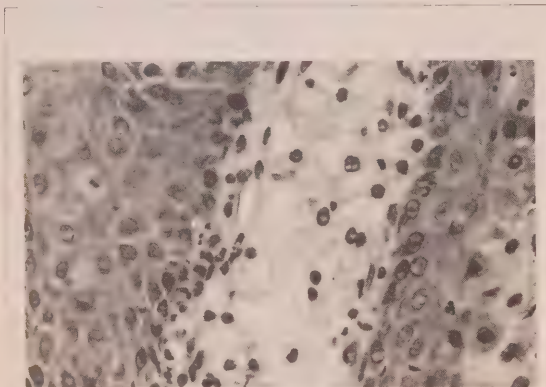


Fig. 2 Photomicrograph illustrating the nature of the xanthoma cells which fill the connective tissue papillae between the epithelial rete ridges. (H and E stain. Magnification 400X).

Odontogenic Keratocyst Dentigerous Cyst Type?

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ABSTRACT

A case of an odontogenic keratocyst in an apparent dentigerous cyst relationship to an impacted mandibular third molar is presented. Careful gross and microscopic examination of this cyst revealed no communication between the keratocyst and the reduced enamel epithelium over the fully formed crown of the impacted tooth. This emphasizes the need for close scrutiny of keratinized "dentigerous" cysts and supports the premise that keratocysts do not arise from reduced enamel epithelium.

The term odontogenic keratocyst was first used by Philipsen¹ in 1956. Since that time, the histogenesis of the keratocyst has been the subject of much discussion. Some authorities use the term keratocyst synonymously with primordial cyst,² implying an origin from dental lamina prior to hard tissue formation. One textbook,³ in contrast, divides keratocysts into a number of different types, e.g., odontogenic keratocyst, dentigerous cyst type. This would suggest a number of different sources for the epithelium of the keratocyst, such as reduced epithelium and dental lamina. The case presented emphasizes the need for careful gross and microscopic examinations of an apparent dentigerous cyst relationship to an impacted tooth.

CASE REPORT

A 14-year-old girl was referred for investigation of a

painless swelling in the left mandibular molar region. Examination revealed buccal expansion in the molar area. The second premolar and second permanent molar were present; the first permanent molar had been extracted previously. Radiographs revealed a multilocular radiolucency in an apparent dentigerous cyst relation to an impacted third molar (**Fig 1**). At operation, under general anaesthesia, the tooth was not visible from within the cyst cavity. During enucleation the tooth was removed with the cyst lining. However, great care was needed to dissect the cyst away from the inferior dental nerve, to which it was attached.

Careful examination of the enucleated cyst revealed an indentation where the impacted tooth was not in direct continuity with the cyst lumen (**Fig 2**). The histology of the cyst was that of a keratocyst (**Fig 3**). Decalcified sections of the impacted tooth revealed normal reduced enamel epithelium (**Fig 4**).

DISCUSSION

This case illustrates the need for careful examination of keratocysts labelled as being of dentigerous cyst type based on radiologic appearance. In Browne's⁴ series nearly all the cysts which appeared radiologically as dentigerous cysts were shown, as in this case, to have a layer of fibrous tissue between the tooth and the cyst cavity. Lucas⁵ suggests that only a minority of dentigerous cysts are keratocysts, and of that minority some are merely coincidental-



Fig. 1 Radiograph showing a cystic lesion involving the crown of the impacted, displaced mandibular left third molar.



Fig. 2 A view of the external surface of the enucleated cyst showing an indentation where the cyst had coincidentally involved the crown of the third molar.

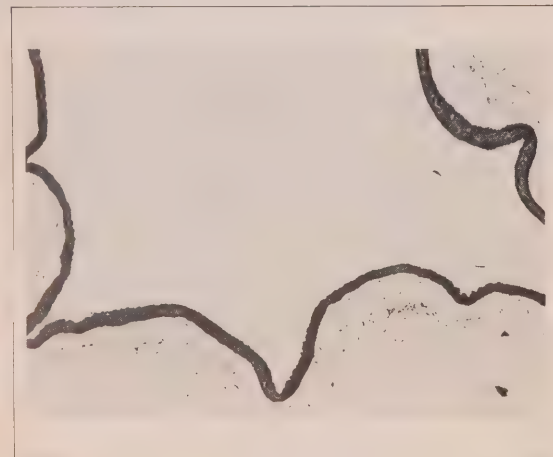


Fig. 3 Photomicrograph showing the histology of an odontogenic keratocyst. (Haematoxylin and eosin original magnification x 55.)



Fig. 4 A decalcified section of the impacted, displaced third molar showing a normal non-keratinized reduced enamel epithelium (arrow). Haematoxylin and eosin, original magnification x 55.)

ly involving impacted teeth. In the case presented, the reduced enamel epithelium was not the source of epithelium for the keratocyst.

It is possible that all keratocysts arise from dental lamina either as true primordial cysts or, in the presence of a full complement of teeth, from remnants of dental lamina.

CONCLUSION

Careful examination of a keratocyst in an apparent dentigerous cyst relationship to an impacted tooth showed no direct continuity between the cyst and the tooth. This emphasizes the need for careful gross and microscopic examination of keratinized dentigerous cysts to rule out the reduced enamel epithelium as one possible source of epithelium for the keratocyst.

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Differential diagnosis of intraoral ulcerative lesions

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ABSTRACT

An attempt was made to simplify the process of arriving at a diagnosis of an intraoral ulcerative lesion. This was done by categorizing the lesion into a clinical group of disease processes on the basis of the history provided by the patient.

The clinical groups are identified as: 1) Recurrent, 2) Acute, and 3) Chronic. Intraoral ulcers are categorized into these groups on the basis of whether: 1) The lesion presented at a previous time, 2) the patient is aware of their presence immediately after their appearance or, 3) the patient is unaware of their presence until discovered by examination. This information is obtained by taking a history from the patient.

A description of some of the disease processes in each of the clinical groups is also included. The classifications and examples are:

- 1) Recurrent Ulcerations
 - Minor Aphthous
 - Major Aphthous
 - Herpetiform
 - Herpes Simplex
- 2) Acute Ulcerations
 - Erythema Multiforme
 - Lichen Planus
 - Traumatic
 - Chemical-induced
- 3) Chronic Ulcerations
 - Syphilis
 - Systemic Lupus Erythematosus
 - Carcinoma

One is often confronted by a patient presenting with an intraoral ulcerative lesion. It is well known that many disease processes may manifest as an ulcer of the oral mucosa, and one must be cognizant of all these possible conditions to arrive at a definitive diagnosis. If by taking a

history, one is able to categorize the ulcer into a clinical group, then by relating the results of careful clinical examination and laboratory procedures to further identify the lesion, arriving at a diagnosis becomes a systematic and simplified process.

The purpose of this paper is to present a classification of intraoral ulcers as: (1) recurrent, (2) acute, or (3) chronic, based on the history obtained from the patient.

Recurrent ulcerations

A history of more than one previous episode of a similar type of mouth ulcer identifies this group of ulcerations.¹ Lehner² applied the term "recurrent oral ulceration" to three varieties of recurrent ulcers: minor aphthous, major aphthous and herpetiform. In addition, there is a recurrent form of herpes simplex infection.^{3,4}

Recurrent aphthous stomatitis (RAS)

Recurrent aphthous stomatitis is a chronic inflammatory disease characterized by painful, recurring ulcerations of the oral mucosa.⁵ There are two types of lesions in RAS, minor and major, based on the size of the ulcer (major, greater than 1 cm, greater than 1 cm).⁶ RAS has been found to affect 5 to 60 per cent of the population, depending on the study group.^{7,8} Numerous theories as to the causes and predisposing factors include viral, microbial, traumatic, psychosomatic, autoimmune, allergic and endocrine.⁹ Presently, the most popular opinion is that antigens are present in the surface epithelial cells of the oral mucosa and that a cell mediated autoimmune response results in necrosis of the surface mucosa.¹⁰

Clinically the minor ulcers are up to 1 cm in size, few in number and affect the non-keratinized portions of the oral mucosa. There is no vesicular stage and they appear as shallow oval ulcers with an erythematous halo; the centre is yellow or gray. They are very painful, and lymphadenopathy is present only when secondarily infected. They

heal in 10-14 days without a scar.¹¹ In contrast, the major aphthous ulcers are larger and more severe.¹² The sites of occurrence are similar, but these are deeper ulcers with slight induration. They are always painful and present with regional lymphadenopathy. These ulcers persist for up to six weeks and heal with a scar, leaving a cobblestone appearance of the mucosa. Periods of remission vary, as does the frequency of recurrence; however, patients with the major form are seldom free from at least one ulcer.¹³

In both types of ulcers, the patients exhibit a high incidence of alloantibodies to oral mucosa.⁵ A pathognomonic histological picture does not exist.¹³

Herpetiform ulcers

This group of recurrent oral ulceration is a distinct entity from RAS,¹⁰ and the etiology is unknown. A disease of adulthood, it appears as recurrent crops of up to 100 small (1-2 mm), painful ulcers⁵ on any part of the oral mucosa. These ulcers may coalesce and form clusters. A vesicular stage is not present, and healing is very rapid (3-4 days), and without scar formation. Periods of remission and recurrence vary.¹⁴

Herpes simplex or other viruses cannot be isolated from these lesions.¹⁵ They are non-specific microscopically and patients exhibit a low incidence of antibody to oral mucosa.⁵

Herpes simplex

Oral herpes simplex is the commonest of all viral diseases¹⁶ in man, with the exception of viral respiratory infections.⁴ Antibodies to this virus are present in the serum of more than 80 per cent of adults.¹⁷ There are two forms of this infection, primary and secondary. The majority of patients experience a subclinical or asymptomatic primary exposure but others experience a more severe introduction. Primary herpetic gingivostomatitis is a condition of childhood and manifests with malaise, fever, lymphadenopathy and the formation of multiple tiny yellowish vesicles in all areas of the mouth. The vesicles soon rupture, leaving small red ulcers surrounded by erythematous halos that may coalesce. These ulcers are very painful and often the child is unable to eat or speak. The virus is easily identified in the tissue of these lesions.⁴

The secondary infection is usually seen in adults. It is postulated that once exposed to the virus, it remains dormant within the nervous tissue and proliferates when the patient is under stress, fatigued or exposed to other conditions. This infection may occur either on the lip or intraorally but usually not in both areas simultaneously. Intraorally the areas most often involved are the alveolar mucosa, hard palate and gingiva. Both types initially present as a burning or tingling sensation, followed by formation of clusters of yellow fluid-filled vesicles. The vesicles soon burst leaving raw, very painful, irregular ulcers with erythematous halos which crusts when found on the lips. The virus, again, can be isolated and healing is uneventful within 7 to 10 days.

Acute ulcerations

Ulcerations characterized by pain immediately upon their appearance comprises the acute ulceration category, and the patient is immediately aware of their presence. The disease processes in this group are: (1) erythema multiforme, (2) lichen planus, (3) traumatic ulcers and (4) chemical-induced ulcers.

Erythema multiforme

Erythema multiforme is an inflammatory mucocutaneous disease of young adulthood.¹⁸ The etiology is unknown but it is speculated that about one half of the cases may be precipitated by various agents. Among these are herpes simplex virus, an autoimmune response, many drugs (including sulfonamides and Carbamazepine), vaccinations, *Staphylococcus aureus*, tuberculosis, allergies, endocrine states and other.¹⁸ Skin lesions consist of asymptomatic erythematous macules and papules in concentric ring-like patterns forming the target or bull's eye lesions.

Intraoral lesions may appear independently or simultaneously.¹⁹ They present as acutely painful areas of oral erythema with irregular ulcerations frequently covered by pseudomembranes. At times vesicle formation is evident as is crusting of the lesions when they are located on the lips. The patient is often unable to speak or eat. If severe, this process may involve the eyes and genitals (Stevens-Johnson syndrome). The microscopic picture shows non-specific inflammatory infiltrate and acantholysis.

Lichen planus

Lichen planus is a common adult-onset mucocutaneous disease in which intraoral lesions often precede the onset of lesions on the skin.²⁰ The skin lesions appear usually on the flexor surfaces of the wrists, forearms and knees and consist of small angular pruritic papules which may be discrete or may coalesce. They are covered by a fine glistening scale. Classically, intraoral lichen planus appears asymptotically on the buccal mucosa as a white lacey pattern consisting of elevated white papules connected by white lines. However, there are other intraoral manifestations of this disease. Acute ulcerations of the mucosa appear in the erosive form of lichen planus. These lesions are variable in size, irregular in outline and are very painful, causing the patient to seek immediate treatment. With the majority of cases the characteristic radiating striae are identifiable at the periphery of the ulcers.²¹ Histologically the picture is pathognomonic for lichen planus with hyperkeratosis and thickening of the granular layer, acanthosis, development of saw-tooth appearance of the rete pegs, liquefaction degeneration of the basal cell layer and infiltration with lymphocytes.²⁰

Traumatic ulcers

These may occur anywhere in the oral cavity, although common sites are the lips, cheek and tongue. They are

painful, solitary and related to a recent traumatic event or factitious injury. This injury may include an ill-fitting denture, a sharp tooth, cheek biting, a toothbrush injury, ingestion of scalding foods and many other identifiable items or occurrences. The administration of a local anaesthetic may result in an ulcer by a child chewing his anesthetized lip. In addition, ulcer formation on the palate has been reported due to tissue ischemia and sloughing from a local anaesthetic.²³ Lymphadenopathy is rarely present unless secondarily infected. Depending on the cause, the lesions may be large or small but are irregular in outline with a surrounding inflammatory response. They heal rapidly in four to seven days. The ulcers are histologically non-specific, appearing as a loss of continuity of surface epithelium and infiltration of polymorphonuclear leukocytes into the connective tissue. Obtaining a detailed history from the patient is of paramount importance in recognizing this common and benign problem.

Chemical-induced ulcers

Ulceration of the oral mucosa may be a result of the use or misuse of one of a variety of chemical substances. Cautic materials such as formocresol and sodium hypochlorite may be inadvertently placed in contact with tissue by the practitioner. The overuse of glyoxide or peroxide or the topical use of acetylsalicylic acid by the patient may also result in ulceration. Allergic reactions such as stomatitis venenata and stomatitis medicamentosa have resulted in oral ulcerations, as has the administration of various drugs.²³

As with traumatic ulcers the appearance varies with the causative agent. The microscopic picture is non-specific, and obtaining a detailed and accurate history is the most important factor in recognizing these lesions.

Chronic ulcerations

Ulcerations of this type are often asymptomatic and may have been present for a variable period of time. They are usually identified on routine oral examination. The patient is unaware of their presence unless they are easily visualized in the anterior portion of the mouth or are secondarily infected. These ulcerations may be a manifestation of syphilis, systemic lupus erythematosus or carcinoma.

Syphilis

Syphilis is an infectious disease which may be acquired through sexual contact with an infected individual. The incidence is increasing yearly. Statistics for the first quarter of 1979 show reported cases in the U.S. have increased 19.2 per cent from the same period in 1978.²⁴ The causative organism is a spirochete, *Treponema pallidum*.

Acquired syphilis manifests itself in three stages if left untreated. The primary stage appears three weeks after exposure and manifests either on the genitals or oral mucosa depending on the area inoculated. Intraorally the

chancre may appear anywhere. The lesion is an ulcer with a discrete punched out appearance. It is usually painless and unknown to the patient it is easily visualized. Slight induration is present as is definite regional lymphadenopathy. The lesion abounds with spirochetes which are easily identifiable on dark field microscopic examination.²⁵ Positive serology is not always present during the primary stage and cannot be relied upon. A biopsy reveals a superficial ulcer with an intense inflammatory infiltrate. The causative organism is present in the tissue and is evidenced by the use of a silver stain.²⁵ The lesion heals without a scar in 10-14 days.

Systemic lupus erythematosus (SLE)

Systemic lupus erythematosus is a rather common disease of unknown etiology. It is classified as one of the collagen diseases which affects one in ten thousand of the general population.²⁶ The peak ages of incidence are the third or fourth decade of life, with a strong female preponderance of at least 8:1.²⁶ The cutaneous lesions consist of itching or burning erythematous patches which may coalesce. A frequent sight of appearance is over the bridge of the nose or cheeks forming the familiar malar or butterfly distribution. The neck, upper arms, shoulders and fingers may also be involved.

Ulceration of the oral mucous membranes occurs in 7 to 40 per cent of patients with SLE and 82 per cent of these intraoral ulcers were painless and unknown to the patients until discovered by careful intraoral examination.²⁷ Any oral tissue can be involved although the hard palate was involved most frequently with these chronic ulcers (89 per cent).²⁷ The lesions vary from surface erosions to frank irregular ulcerations. These oral ulcers usually coincide with exacerbations of disease activity,²⁸ although they may appear when the patient is not in a debilitated state.²⁹

Histologically the mucosal lesions are similar to the skin lesions of SLE and consist of hyperkeratosis with chronic inflammatory cells in the perivascular and underlying connective tissue.²⁷

Oral lesions have been known to precede the systemic appearance of SLE, and since the oral lesions are an indication of the activity of the disease, recognition of the oral ulcerations can predict the exacerbations of SLE and, by early treatment with systemic corticosteroids, lessen their severity.

Carcinoma

Oral cancer comprises six per cent of all cancers³⁰ with squamous cell carcinomas being the most frequent type. In 1979, it was estimated 24,000 new cases would be detected in the U.S. and that oral cancer would lead to 9,000 deaths.³¹ Early recognition and diagnosis of these lesions tremendously improves the prognosis. At present by the time of diagnosis, 60 per cent of intraoral malignancies have metastasized to regional lymph nodes, affecting the

prognosis greatly. The five-year survival rate for localized malignancies is 67 per cent while for those that have metastasized it is 25 per cent.³¹

The intraoral sites most frequently involved, in decreasing numbers, are the tongue, lips and floor of the mouth. Men are affected 3:1 more often than women and usually after the age of 50 years. Etiological co-factors include tobacco, alcohol and local irritants. These lesions have varied clinical appearances, one being a chronic, painless ulcer.¹¹ They have a ragged, raised border with induration beneath and around the lesion. The patient is often unaware of the lesions. Regional lymphadenopathy is present in the later stages. A biopsy reveals the infiltrating malignant nature of these ulcers.

SUMMARY

This article classifies intraoral ulcers into three categories on the basis of the history provided by the patient. These categories are:

1. Recurrent ulcerations: minor aphthous, major aphthous, herpetiform, and herpes simplex.
2. Acute ulcerations: erythema multiforme, lichen planus, traumatic, and chemical-induced.
3. Chronic ulcerations: syphilis, systemic lupus erythematosus, and carcinoma.

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The description of deciduous mandibular second molars with an accessory root is provided, along with the implications for the occurrence of these roots.

Three-rooted deciduous mandibular second molars

Clinical, forensic and theoretical implications

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While permanent mandibular first molars with three roots have been described in previous studies,^{1,7} there appear to be few published reports of three-rooted mandibular deciduous second molars,^{6,8} although they are seen occasionally in paedodontic practices.⁹ Two such teeth that have recently come to my attention deserve description because of their theoretical, clinical and forensic implications.

Approximately 200 permanent and deciduous teeth from the collection of the Royal Ontario Museum were made available to me for identification. Thirteen of the teeth were mandibular deciduous second molars. While the archaeological assignment of the teeth is unclear, several aspects of their morphology and pathology strongly indicate that they are of Amerindian origin from an agricultural culture. The roots of the teeth are stained a deep brown; they are all dissociated with no alveolar bone accompanying them, lending credence to the hypothesis that they are from an archaeological site, most probably an ossuary.

The assignment of the teeth to an Amerindian origin is based on the very high frequency and degree of expression of shovel-shaped incisors, a sixth cusp (*tuberculum sextum*) on the mandibular molars, the lack of Carabelli's cusp expression in the maxillary molars, and the general conservativeness of the crown morphology noted in Mongoloid racial stock. It is believed that the teeth are from an agricultural culture because of the rather large occurrence of dental caries in both the deciduous and permanent teeth. Both dentitions also exhibit moderate to heavy attrition of the crowns.

Assuming that the teeth are from North America, and probably from Ontario, it can be deduced that they are Indian rather than Inuit (Eskimo) because of the state of preservation (excellent), the staining evident and the fact that no Inuit (Thule culture) archaeological sites have yielded large numbers of dissociated teeth. This is a characteristic of an ossuary type of burial practised by Indians extant at the time of contact with Europeans in Ontario. The ossuaries were the reburial of large numbers

of individuals in a single pit during the Feast of the Dead ceremony.¹⁰ Because of the disarticulations and general lack of any efforts to maintain the burials in a discrete manner during the reburial, the archeologist/osteologist is forced to separate the skeletal parts into units such as right ulnas, left tibias, etc. The loose teeth must therefore be studied as a population of teeth, rather than being able to identify the individual teeth that belonged to a single individual.

Crown form

The teeth of interest in this report are a right mandibular deciduous second molar (tooth #85) and a left mandibular deciduous second molar (tooth #75). Both show evidence of dental caries on the occlusal surfaces and a moderate amount of attrition with slight dentine exposure on the cusp tips of the mesiobuccal, distobuccal and distal cusps. In addition, there is slight exposure of dentine on the sixth cusp which is present in both teeth. Both teeth have a conservative crown form with five major cusps. The groove patterns are unclear due to their obliteration by caries and attrition. Both teeth display deep mesiobuccal grooves. These teeth have distal wear facets indicating that the permanent first molars have been in contact with them during life. I speculate that these teeth are from the same individual, due to the remarkable similarity in their crown forms.

Root form

The two teeth are very similar in their root morphology (Figs 1 and 2). The mesial roots are "normal" in shape and size. The distal roots suggest a morphology very similar to that noted in maxillary distobuccal and lingual roots. The distobuccal root originates cervically more from the distobuccal/distal cusp areas than from the lingual aspect. The distolingual root originates cervically to the distolingual cusp and has the "elephant trunk" shape described by Kraus, Jordan and Abrams¹¹ for deciduous maxillary molar lingual roots. The bifurcation between the mesial

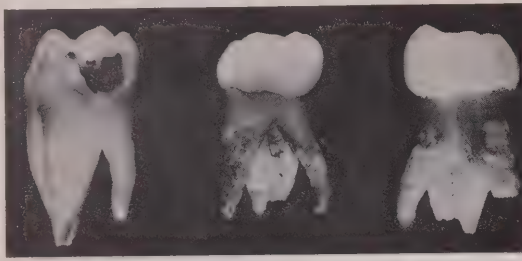


Fig. 1: Distal view of mandibular permanent first molar (left) and deciduous second molars illustrating accessory root.

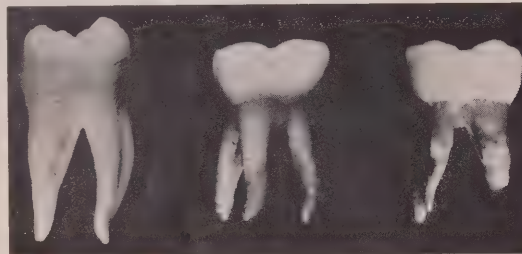


Fig. 2: Lingual view of teeth illustrated in Fig 1.

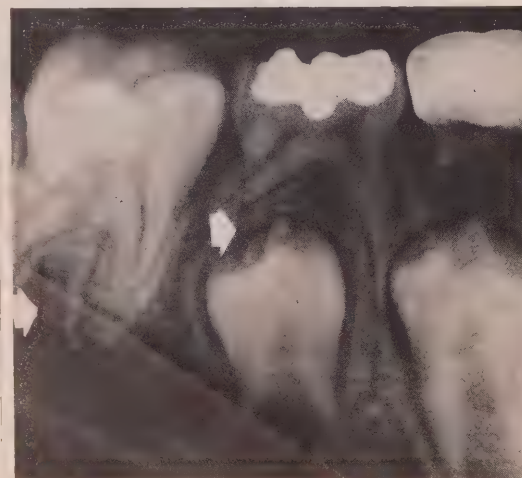


Fig. 3: Radiograph of three-rooted deciduous and permanent mandibular molars in an 8-year-old Chinese. Accessory roots indicated by arrows.

and distal roots is near the dentinoenamel junction (no root trunk) and appears to be similar in position and form to two-rooted deciduous molars from both the buccal and lingual aspects. The "split" distal root only gives the appearance of the maxillary form when viewed from the distal aspect.

IMPLICATIONS

These two teeth are described because of their rarity and the clinical, theoretical and forensic implications for living Mongoloid populations. As noted above, three-rooted mandibular first permanent molars have been described in the permanent dentitions of Indians and Inuit. The most comprehensive study of this feature in deciduous teeth noted an absence of third roots in the second molars of Europeans, Eurasians and residents of the Indian sub-continent, while Chinese had less than a one per cent occurrence.⁶

Most studies have suggested that care should be taken to ascertain the presence of an accessory root in permanent first molars when treating them. Certainly, the same caution that applies to permanent teeth should be taken when anticipating the treatment of deciduous mandibular molars with this accessory root. The breakage of the root during an extraction and any subsequent removal of the root could possibly injure the developing permanent premolar. As well, care must be taken in any sort of pulp treatment because of the possibility of an accessory canal.

The presence of three-rooted molar teeth in the permanent dentition of Indians and other Mongoloid populations and the presence of this condition in the deciduous dentition suggest that the deciduous second molar is part of the same "field" of developmental influence. Dahlberg¹² and others have made the observation that the deciduous second molar is a mesial member of the molar field. Variations seen in the crown form of deciduous second molars are usually noted in the permanent molars with the field of influence lessening as one goes distally in the molar series. Because of this hypothesized field of influence, which includes deciduous second and all permanent molars, the field concept suggests that if a deciduous second molar has an accessory root there will be a high probability that the permanent first molar will also evidence one. As can be seen from Fig. 3, this condition does prevail in at least one individual. The radiograph is of an eight-year-old Hong Kong born Chinese seen in the University of Toronto dental clinic. One can note the presence of an accessory root on the deciduous second molar and on the permanent first molar. (Although, only the right side is illustrated here, the occurrence of the accessory roots was bilateral for both teeth.) While Tratman⁶ suggested this deciduous/permanent molar relationship, he was unable to observe this condition as he was examining only extracted teeth. To my knowledge this is the only case thus far documented; however, I am sure it is not the only occurrence of this example of the molar root field of influence on both the deciduous and permanent molar teeth.

The presence of this root variation is also of forensic value. Since these accessory roots are found in a significantly higher percentage of individuals of Mongoloid affinities than in Causasoids, their presence may be of

assistance in confirming the racial identification of an unknown individual. Until now they have been noted primarily in the permanent molars, but the evidence presented here suggests that the occurrence of accessory roots in deciduous molars might well be used to assist in the racial identification of an individual.

CONCLUSIONS

The teeth described here show evidence of an accessory distolingual root on the deciduous mandibular second molars. These specimens are from an archaeological context and are assigned a "racial" identification of American Indian. The present archaeological theories and limited clinical evidence suggest that this condition noted in this material should also be evident in present day Indians as well as other Mongoloid populations. The accessory roots require special attention during treatment of the tooth and suggest the possibility of their use in forensic identification cases. In addition, the presence of these three-rooted deciduous second and permanent first molars in the same individual lends credence to the field concept of a molar developmental field which includes the deciduous second and permanent molars.

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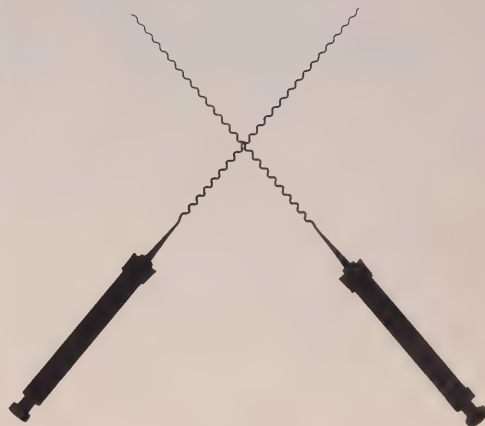
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Étude longitudinale sur la carie, la malocclusion et les maladies parodontaires chez 2.037 enfants Montréalais

II — La prévalence des problèmes d'occlusion

Claire Infante-Rivard*, M.D., M.P.H., F.R.C.P.
Martin Payette**, DDS

RÉSUMÉ

Les données de 1978 sur les problèmes d'occlusion d'une étude longitudinale de 2.037 écoliers montréalais furent analysées comme des données ponctuelles puis comparées aux résultats de deux études québécoises et d'une étude américaine antérieures.

Au niveau de la prévalence des relations molaires selon la classification de Angle, on a trouvé une différence significative par territoire de résidence et par origine ethnique mais aucune différence entre les sexes. En comparant cette étude montréalaise aux études québécoises et américaine, on remarque que plus d'enfants américains sont classés en classe II et III (45.3%) que d'enfants montréalais (31.2%). Par contre dans les études québécoises seulement 16% des enfants étaient en classe II et III.

Toutes les composantes étudiées de la relation incisive et de l'occlusion croisée manifestent des différences significatives selon le lieu de résidence. La bécane incisive, bien qu'un problème rare, est plus marquée chez les enfants d'origine anglaise et chez les enfants de race noire. Les données montréalaises sont très semblables aux données américaines pour ces relations sauf pour le surplomb vertical où plus d'enfants américains souffrent de cette déviation.

En ce qui concerne l'indice de priorité de traitement, les résultats, pour les catégories, et traitement désirable et traitement urgent, sont semblables dans l'étude montréalaise et l'étude américaine. Les deux enquêtes québécoises sont démarquées et semblent avoir sous-évalué les besoins en traitements orthodontiques.

Quinze virgule trois pour cent (15.3%) des enfants montréalais de première année ont un besoin marqué de traitements orthodontiques, ce qui correspond bien aux meilleurs estimés actuels qui proposent un pourcentage variant entre 14 et 18%.

INTRODUCTION

Au Québec, on trouve peu de données sur les problèmes de l'occlusion chez les enfants de 7 à 11 ans. On peut

citer principalement le Dental Health Survey of Canadian Provinces 1969-1970 (1) et le Rapport sur l'hygiène dentaire de Nutrition Canada (2). Mais ces deux enquêtes remontent déjà à près de dix ans; des données récentes s'avèreraient très utiles pour la planification d'une politique en matière de soins orthodontiques.

Le but de ce premier article sur les problèmes d'occlusion des enfants est:

- 1) de présenter des données de prévalence en rapport avec un ensemble de facteurs socio-démographiques;
- 2) de proposer les besoins en traitements de ce groupe;
- 3) de comparer ces données avec les données québécoises antérieures et des données américaines concurrentes.

Dans un deuxième article sur le sujet, nous discuterons d'association entre des facteurs présumés de risque et les problèmes de malocclusion ainsi que des interrelations entre les problèmes d'occlusion, de carie et les maladies des gencives, évoluant sur une période de deux ans après la mesure initiale.

MÉTHODE

Les détails méthodologiques de l'étude sont explicités dans une publication antérieure (3). Il suffira de rappeler qu'une cohorte de 2.037 enfants fréquentant les écoles publiques de la Ville de Montréal est suivie depuis 1978. En 1978, ces enfants étaient âgés de 7 ans (68.5%), et 8 ans ou plus (30.5%); 0.9% avait moins de 7 ans. À chaque année, un examen dentaire est fait par des dentistes pour évaluer la carie, l'occlusion, les maladies parodontaires, la plaque et le tartre. Un questionnaire est adressé aux parents recueillant de l'information sur un ensemble de facteurs tels l'alimentation, les habitudes d'hygiène, les habitudes de suçage, l'utilisation des services professionnels, etc.

En ce qui concerne l'occlusion plus spécifiquement, nous l'avons étudiée sous plusieurs aspects. Les définitions utilisées pour classer les sujets sont maintenant données. D'abord on a évalué la relation antéro-postérieure des premières molaires permanentes selon l'approche proposée par Angle (4). Les dents en occlusion centrée, le côté droit et le côté gauche sont évalués séparément. La classe I

Tableau I
Relation molaire selon la classification de angle par âge et sexe
Nombre et pourcentage par colonne
Montréal 1978

	≤ 7 ans				≥ 8 ans			
Classification	Garçons		Filles		Garçons		Filles	
	Nombre	%	Nombre	%	Nombre	%	Nombre	%
Classe I	443	61,9	416	63,1	165	54,8	178	59,7
Classe II Division I	147	20,5	124	18,8	79	26,2	73	24,5
Classe II Division II	23	3,2	34	5,2	14	4,7	20	6,7
Classe III	33	4,6	30	4,6	21	7,0	17	5,7
Inconnue	70	9,8	55	8,3	22	7,3	10	3,4
Total	716		659		301		298	
$\chi^2 = 4,51$ $P = 0,34$					$\chi^2 = 6,69$ $P = 0,15$			
L'âge est inconnu pour 13 enfants: 9 sont en classe I et 4 sont en classe II								

existe lorsque les sujets ont la cuspide mésiobuccale de la première molaire permanente maxillaire tombant dans le sillon buccal de la première molaire permanente mandibulaire. Entre les âges de 6 ans et 9 ans, cette cuspide fait normalement occlusion dans une position légèrement mésiale par rapport au sillon buccal de la première molaire permanente supérieure tombant dans l'embrasure entre la première molaire permanente inférieure et la deuxième prémolaire inférieure ou la deuxième molaire primaire inférieure. Le déplacement mésial de la cuspide mésiobuccale doit être d'au moins une demi-cuspide. Dans une classe III, la cuspide mésiobuccale de la molaire du haut peut tomber n'importe où à partir du sillon distobuccal de son antagoniste jusque derrière celle-ci. Le déplacement distal de cette cuspide doit être d'au moins une demi-cuspide. La division I décrit des incisives supérieures en labio-version; la division II, des incisives centrales supérieures verticales ou en linguo-version. Les latérales apparaissent alors fortement labiales en comparaison avec les centrales. Lorsqu'on parle de subdivision à l'intérieur d'une classe, on décrit l'existence d'une malocclusion unilatérale.

Différentes composantes de l'occlusion telles la relation incisive sont aussi étudiées. Pour étudier cette relation, on devait retrouver au moins une incisive en haut et une en bas. Nous avons déterminé qu'il y avait béance incisive (openbite) lorsque certaines dents antérieures ou postérieures ne viennent pas en contact en occlusion centrique.

La mesure de l'espace vertical séparant les bouts incisifs des incisives centrales supérieures et inférieures est enregistrée dans une des trois catégories; relation normale, entre 0 et 3 mm ou ≥ 4 mm. Quand la relation est telle que le bout incisif de la surface labiale des incisives inférieures vient en occlusion avec le tiers gingival de la surface linguale des incisives supérieures ou même le palais, on dit qu'il y a surplomb vertical (overbite). Alors un trait est fait sur une incisive permanente inférieure et la distance entre le bord incisif et ce trait est mesurée: une des trois catégories est possible: entre 0 et 3 mm, entre 4 et 7 mm ou ≥ 7 mm. La relation horizontale des incisives supérieures et inférieures est aussi décrite. Lorsqu'en occlusion centrée, le bout incisif des incisives supérieures est très labial par rapport aux incisives inférieures, on dit qu'il y a surplomb horizontal (upper overjet). La distance entre le bout incisif le plus antérieur d'une incisive supérieure par rapport à une surface labiale d'une incisive inférieure est mesurée comme étant entre 0 et 4 mm, de 5 à 6 mm et 7 mm ou plus.

D'autres éléments que la relation molaire et la relation incisive ont été étudiés, comme l'occlusion croisée. L'occlusion croisée postérieure ou antérieure (posterior crossbite — anterior crossbite) existe lorsqu'une ou des dents postérieures ou antérieures font occlusion en position labiale ou linguale par rapport à leur position normale dans l'arcade. On jugeait que le problème était partiel ou moins (2 dents ou moins) ou unilatéral complet (plus de 2 dents) ou bilatéral. Le chevauchement (crowding) est dé-

fini comme l'entrecroisement des dents (moins de 4 ou 4 et plus) par manque d'espace dans l'arcade. La migration (drifting) est le déplacement causé par la perte prématurée de dents provoquant une mauvaise position de moins de 3 dents ou 3 dents et plus.

L'indice de traitement prioritaire (ITP) (5) est une échelle allant de 0 à 10 qui exprime la sévérité relative des malocclusions chez l'enfant. Voici l'échelle telle que proposée par Grainger et interprétée par nous:

Échelle de sévérité de la malocclusion	Interprétation
0	Occlusion normale classique
.001 ≤ 3	Manifestations mineures et besoin de traitement léger
> 3 ≤ 6	Malocclusion caractérisée mais traitement au choix
> 6 ≤ 9	Handicap sévère, traitement très souhaitable
> 9	Handicap très sévère avec traitement nécessaire

Le calcul de cet indice est basé sur l'observation de la relation de la première molaire, sur la relation incisive horizontale, sur la relation incisive verticale, sur le déplacement des dents et sur l'occlusion croisée postérieure. Un poids est accordé à chaque cellule (exemple d'une cellule: classe II subdivision et bécane incisive de 4 mm et plus) et une constante à chaque catégorie de la relation de la première molaire. La somme des poids de ces éléments se situe entre 0 et ≥ 10. Notre calcul est légèrement différent de celui proposé par le National Center for Health Statistics (NCHS) (5) parce que la définition de nos mesures varie légèrement (exemple: dans la mesure du surplomb vertical, le NCHS détaille les mm de 2 à 9 et plus: nous avons trois catégories: 0 à 3 mm, entre 4 et 7 mm et 7 mm et plus). Les poids et constantes utilisés dans notre calcul sont disponibles sur demande.

Bien qu'il y ait 2,037 enfants dans la cohorte, les résultats sur l'occlusion ne porteront pas sur ce nombre puisque nous avons exclu de toutes ces analyses les cinquante (50) enfants avec appareil d'orthodontie en bouche. De plus, dans l'étude de la relation incisive (bécane incisive, surplomb horizontal et surplomb vertical) et de l'indice de traitement prioritaire, nous avons exclu d'autres enfants non pas à cause du port d'appareil orthodontique mais parce qu'ils n'avaient pas au moins une incisive en haut et une incisive en bas.

Les résultats de notre étude seront fréquemment présentés en parallèle avec ceux de trois enquêtes: le Dental Health Survey of Canadian Provinces 1968-1970 (NHW) (1), le Rapport sur l'hygiène dentaire de Nutrition Canada (NC) (2), enquête faite en 1970-1972, et une enquête américaine faite en 1963 et publiée en 1973 par le National Center for Health Statistics (NCHS) (5) dans le contexte de l'enquête nationale de santé.

L'unité géographique de regroupement dans l'étude est le territoire du Département de Santé Communautaire (DSC). Six de ces départements dans la région 06-A (les îles de Montréal et de Laval) sont impliqués: Sacré-Coeur: population assez jeune, faible mortalité (donc

conditions socio-économiques favorables), francophones majoritaires avec un fort groupe d'autres ethnies, scolarité moyenne; Maisonneuve-Rosemont: population assez jeune, mortalité forte (donc conditions socio-économiques défavorables), francophones fortement majoritaires, scolarité faible; Hôpital Général de Montréal: population vieille, mortalité faible, anglophones majoritaires et un fort groupe d'autres ethnies, scolarité élevée; Saint-Luc: population vieille, mortalité forte, francophones majoritaires, scolarité faible; Verdun: population assez jeune, mortalité forte, francophones majoritaires avec un fort groupe d'autres ethnies, scolarité faible; Sainte-Justine: population vieille, mortalité faible, anglophones majoritaires et scolarité élevée. Ces données proviennent du Recensement canadien de 1976 (6).

RÉSULTAT

Au tableau I, la distribution de la relation molaire selon l'âge et le sexe ne révèle pas de différence statistiquement significative, selon le chi-carré, dans la classification entre les garçons et les filles, ni dans le groupe de 7 ans ou moins ni dans celui de 8 ans et plus. Par contre cette même classification, comprenant tous les enfants éligibles à l'analyse, soit 1.987, n'a pas une distribution indépendante de l'unité géographique de résidence des enfants (tableau II) (chi-carré significatif à $p = .0000$). Ainsi on retrouve plus d'enfants en classe I dans les DSC de l'Hôpital Sacré-Coeur, de l'Hôpital Général de Montréal (HGM) et celui de l'Hôpital Sainte-Justine que dans les autres. En classe II, par ailleurs seul le DSC de l'HGM diffère beaucoup des autres (11.4% des enfants de ce territoire se trouvant en classe II division I et 1.5% en classe II division II par rapport à des moyennes respectives de 21.5% et 4.6% pour l'ensemble du territoire). Les enfants pour lesquels la classification est inconnue ne sont pas également distribués entre les DSC. La classification de la relation molaire selon l'origine ethnique est présentée au tableau III. Si on vérifie la dépendance statistique entre ces deux variables, on voit qu'elle existe (chi-carré significatif à $p = .000$). Les enfants d'origine ethnique grecque et ceux qui sont classifiés d'origine "autre" se situent bien au-delà de la moyenne en classe I. Ce sont les enfants francophones qu'on retrouve le plus en classe II.

La classification des sujets selon la relation molaire d'après les résultats de quatre enquêtes effectuées auprès d'enfants québécois, d'enfants plus particulièrement montréalais et d'enfants américains est présentée au tableau IV. On observe une similarité remarquable entre les deux enquêtes québécoises du début de la décennie où environ 16% des enfants sont en classe II et III. L'enquête montréalaise donne 31.2% des enfants dans ces mêmes classes tandis que l'enquête américaine classifie ainsi 45.3% des enfants.

Dans notre étude de diverses composantes spécifiques de l'occlusion, en particulier la relation incisive et l'occlusion croisée, nous avons recherché l'existence d'associations avec diverses caractéristiques socio-économiques. Le tableau V est un résumé de ces considérations. Pour le surplomb vertical, une différence marginalement significative existe, indiquant que les garçons seraient légèrement plus affectés. On retrouve des différences significatives pour toutes les composantes en rapport avec le lieu de résidence. Seule la bécane incisive se présente avec des

Tableau II
Relation molaire selon le lieu de résidence (défini par le DSC)
Nombre et pourcentage par colonne
Montréal 1978

Classification	Sacré-Coeur		Maison-neuve-Rosemont		Hôpital Général de Montréal		St-Luc		Verdun		Ste-Justine		Total	
	Nbre	%	Nbre	%	Nbre	%	Nbre	%	Nbre	%	Nbre	%	Nbre	%
Classe I	250	66,0	331	55,6	242	70,6	253	55,1	67	50,8	68	86,1	1211	60,9
Classe II Division I	93	24,5	125	21,0	39	11,4	133	29,0	33	25,0	4	5,1	427	21,5
Classe II Division II	16	4,2	33	5,5	5	1,5	33	7,2	4	3,0	0	0,0	91	4,6
Classe III	13	3,4	31	5,2	20	5,8	19	4,1	12	9,1	6	7,6	101	5,1
Inconnue	7	1,8	75	12,6	37	10,8	21	4,6	16	12,1	1	1,3	157	7,9
Total	379		595		343		459		132		79		1987	
$\chi^2 = 143,01$ $P = 0,0000$														

Tableau III
Relation molaire selon la classification de langue par origine ethnique
Nombre et pourcentage par colonne
Montréal 1978

	Origine ethnique											
Classification	Française		Anglaise		Italienne		Grecque		Autre et inconnue		Total par rangée	
Classification	Nbre	%	Nbre	%	Nbre	%	Nbre	%	Nbre	%	Nbre	%
I	658	55,9	97	67,4	206	62,2	51	75,0	199	74,5	1211	60,9
II Division I	300	25,5	21	14,6	65	19,6	9	13,2	32	12,0	427	21,5
II Division II	56	4,8	6	4,2	22	6,6	4	5,9	3	1,1	91	4,6
III	69	5,9	9	6,3	13	3,9	2	2,9	8	3,0	101	5,1
Inconnue	94	8,0	11	7,6	25	1,3	2	2,9	25	9,4	157	7,9
Total	1177		144		331		68		267		1987	
	$\chi^2 = 61,03 \qquad P = 0,0000$											

Tableau IV

Étude de la relation molaire: Pourcentage de sujets affectés

	Survey of Can. Prov* (NHW) (Québec) 1968-1970	Nutrition Canada† (Québec) 1970-1972	Infante-Rivard** Payette (Montréal) 1978	NCHS†† (USA) 1963
Classe I	84,5	84,3	60,9	53,8
Classe II	10,7	10,7	Div. I Div. I Sub. 21,5 Div. II Div. II Sub. 4,6	Unilatérale: 14,9 Bilatérale : 20,4 35,3
Classe III	5,3	5,0	5,1	Unilatérale: 4,8 Bilatérale : 5,2 10,0
Inconnue	—	—	7,9	Mixte : 0,9

* Enfants de 7 ans = 438

† Enfants de 7 ans: n = 174

** Enfants de 6 à 9 ans: n = 1.987 (cohorte originale de 2.037 dont 50 exclus à cause du port d'appareil orthodontique)

†† Enfants de 6 à 11 ans: n = environ 7.400

différences très significatives entre les diverses origines ethniques. On retrouve plus souvent ce problème chez les enfants anglophones que les autres. On ne retrouve pas d'association entre ces composantes et l'occupation du non plus que la scolarité. La caractéristique raciale ressort au niveau de la béance incisive où les enfants de race noire sont plus affectés.

Le tableau VI offre la possibilité de comparer trois mesures de la relation incisive dans les enquêtes déjà mentionnées. Bien que la façon de mesurer les diverses composantes soit quelque peu différente d'une enquête à l'autre, on trouve assez bien les points de comparaison. Pour le surplomb horizontal, trois enquêtes donnent des résultats assez voisins soit l'enquête N.C., l'enquête montréalaise et celle faite aux U.S.A., en particulier lorsqu'on mesure ce surplomb à 5-6 mm. Toutefois dans la mesure à > 7 mm, on retrouve deux fois plus d'enfants américains (9,4%) que d'enfants montréalais (4,4%). Dans les deux enquêtes québécoises, on n'a trouvé aucun enfant québécois avec une telle mesure ou moins de 1% des enfants. Au niveau du surplomb vertical, les données américaines se distinguent carrément de toutes les autres en identifiant 43,6% des enfants avec un S.V. de 4 ≥ mm. La béance incisive semble une anomalie rare dans toutes les régions étudiées mais légèrement plus marquée à Montréal qu'ailleurs.

La comparaison en ce qui concerne l'occlusion croisée et surtout le déplacement des dents (tableau VII) est plus difficile car les critères diffèrent d'une étude à l'autre. L'étude du NHW, l'étude américaine et l'étude montréalaise donnent respectivement 10,3%, 9,3% et 12,8% des enfants avec des dents en occlusion croisée. L'étude montréalaise considère l'occlusion croisée postérieure et antérieure con-

trairement aux autres qui mesurent l'occlusion croisée postérieure seule. D'après l'enquête NC, 25% des enfants auraient des dents en occlusion croisée postérieure. Selon cette même enquête, 39,0% des enfants ont des dents déplacées; chez les américains, 42,2% ont ce problème et pour les enfants montréalais, un maximum de 34,5% auraient des dents en chevauchement et/ou en migration; ce maximum s'applique si les enfants des deux groupes sont tous différents.

Enfin, au tableau VIII, le pourcentage de sujets selon les catégories de l'indice de traitement prioritaire est présenté pour les quatre enquêtes. Les deux enquêtes québécoises sont nettement démarquées par rapport aux deux autres. Ces dernières par contre donnent des résultats semblables pour les catégories de traitement désirable et traitement urgent soit 15,1% (U.S.A.) et 15,3% (Montréal). C'est aux États-Unis qu'on retrouve le moins d'enfants sans aucune malocclusion, soit 23,6%.

Nous avons comparé l'indice moyen de priorité de traitement entre les sexes, les origines ethniques, les DSC et les occupations du père. Seule une analyse de la variance s'est révélée marginalement significative ($F = 3,212$; $p = .012$) soit celle où les moyennes selon les origines ethniques sont comparées.

DISCUSSION

Une remarque s'impose d'emblée dans l'interprétation des résultats. Il s'agit de rappeler que lorsque plusieurs tests statistiques sont effectués sur les mêmes données, on n'a plus de certitude quant à l'exactitude du niveau auquel le résultat s'avère significatif. Il faut donc exiger une pro-

Tableau V

**Remarques sur la relation des variables socio-économiques avec des composantes de l'occlusion
Montréal 1978**

	Surplomb vertical (overbite)	Béance incisive (opebite)	Surplomb horizontal (overjet)	Occlusion croisée (crossbite)
Sexe	p = 0,01 ≥ 4 mm 49 ♀ 84 ♂	Pas de différence significative	Pas de différence significative	Pas de différence significative
Lieu de résidence	p = 0,0000 11,6% des enfants du DSC Sacré-Coeur ont ≥ 7 mm de S.V. par rapport à 5,06 pour l'ensemble des autres enfants	p = 0,0000 Au DSC Ste-Justine, 73,4% des enfants n'ont pas de B.I. versus 91,1% pour les autres DSC	p = 0,005 Au DSC Ste-Justine, on retrouve le moins de S.H.: 16,5% versus 25,2% ailleurs	p = 0,0000 DSC Sacré-Coeur et Verdun ont 7,7% et 6,8% des enfants en O.C. unil. compl. ou bilatérale versus 2,3% pour les autres
Origine ethnique	p = 0,01 17,6% des enfants d'origine grecque ont ≥ 7 mm de S.V. par rapport à 5,7% pour l'ensemble des autres enfants	p = 0,001 80,6% des enfants d'origine anglaise n'ont pas de B.I. versus 91,7% pour l'ensemble des autres enfants	p = 0,01 64,7% des enfants d'origine grecque n'ont pas de S.H. versus 76,5% des autres enfants. 81,3% des enfants d'origine autre que française, anglaise, italienne ou grecque n'ont pas de S.V.	Pas de différence significative
Occupation du père	Pas de différence significative	Pas de différence significative	Pas de différence significative	Pas de différence significative
Scolarité	Pas de différence significative	Pas de différence significative	Pas de différence significative	Pas de différence significative. Toutefois les enfants des "universitaires" sont les moins affectés
Race	Pas de différence significative	p = 0,001 Race noire la plus affectée	Pas de différence significative	Pas de différence significative

Tableau VI
Étude de la relation incisive: Pourcentage de sujets affectés

	Survey of Can. Prov. (NHW) (Québec) 1968-1970	Nutrition-Canada (Québec) 1970-1972	Infante-Rivard Payette (Montréal)* 1978	(NCHS) (USA) 1963
Surplomb horizontal (upper overjet)	1-4 mm : 93,2	1-4 mm : 83,9	Non (0-4 mm): 75,9	Nég. : 1,3 0-4 mm: 70,1
	5-6 mm : 4,5	5-6 mm : 16,1	5-6 mm : 19,7	5-6 mm: 19,2
	≥ 7 mm : 0,6	≥ 7 mm : 0,0	≥ 7 mm : 4,4	≥ 7 mm: 9,4
Surplomb vertical (overbite)	Normal : 90,0	Normal : 88,4	Non (0-3 mm): 80,7	Nég. : 5,7 0-3 mm: 50,7
	Moins de 3/3 de la couronne : 0,5	Moins de 3/3 de la couronne : 7,6	4-7 mm : 12,6	≥ 4 mm: 43,6
	3/3 de la couronne ou plus : 3,5	3/3 de la couronne ou plus : 4,0	≥ 7 mm : 6,7	
	Dans le tissu mou : 3,5	Dans le tissu mou : 0,0		
Béance incisive (openbite)	1-2 mm : 1,0	—	Non : 90,0	Nég. : 94,3
	3-4 mm : 1,0	—	0-3 mm : 7,4	0-3 mm: 5,0
	≥ 4 mm : 0,0	—	≥ 4 mm : 1,7	≥ 4 mm: 0,7

*Résultats sur 1.981 enfants: des 2.037: 50 sont exclus pour appareil d'orthodontie ou n'ayant pas au moins une incisive en haut et en bas et 6 parce que n'ayant pas au moins une incisive en haut et en bas

bilité qui ne soit pas trop près de la probabilité à laquelle on avait décidé de rejeter.

Disons tout de suite qu'il n'apparaît pas intéressant pour les auteurs de faire porter la discussion sur la différence dans les méthodes employés par les divers chercheurs pour mesurer les problèmes d'occlusion. Il va sans dire toutefois que des différences importantes dans les définitions et les mesures entraînent des résultats non comparables. Quand se sera le cas, nous soulignerons cet élément.

On se rappellera de la différence appréciable dans la taille des divers échantillons. Ainsi, l'enquête N. C. base ses résultats sur 174 enfants seulement et l'enquête du NHW, sur 438 enfants. Étant donné les mesures et les procédures utilisées dans ces deux enquêtes québécoises pour évaluer un problème difficile telle la malocclusion, il faut se demander si ces tailles d'échantillon sont appropriées. Les différences d'âge dans les groupes comparés doivent être gardées

en mémoire dans l'interprétation des données. Enfin soulignons qu'à ce point-ci, nos données montréalaises, bien qu'étant part d'une étude longitudinale, sont analysées comme des données ponctuelles. Nous pouvons tout au plus souligner des associations entre certains facteurs et le problème d'intérêt. Nous ne pouvons pas inférer des relations de cause à effet. Ceci se fera plus tard lorsque nous présenterons des résultats d'incidence des problèmes dans divers groupes de risque.

Dans l'étude montréalaise, on ne trouve pas de différence entre les sexes du même âge en ce qui a trait à la relation molaire. Cela semble être la situation trouvée aussi dans l'étude américaine (5). La réparation selon le sexe des enfants à examiner s'est faite sans mécanisme déterminé à l'avance. Si dans les populations, il n'y a effectivement pas de différence quant à ce phénomène entre garçons et filles, on peut souligner la validité de notre mesure sur le terrain.

Tableau VII
Étude de l'occlusion croisée et déplacement des dents. Pourcentage de sujets affectés

	Survey of Can. Prov. (NHWC) (Québec) 1968-1970	Nutrition-Canada (Québec) 1970-1972	Infante-Rivard Payette (Montréal)† 1978	NCHS (USA) 1963		
	Nbre de dents postérieures du maxillaire supérieur en position linguale et buccale par rapport aux dents mandibulaires		Occlusion croisée antérieure et postérieure	Nbre de dents	Occlusion postérieure buccalée	Occlusion postérieure lingualée
Occlusion croisée postérieure (posterior crossbite)	0 : 90,0	0 : —	Non : 87,2	0	98,2	92,1
	1 : 5,3	1 : 13,4	Unilatérale partielle	1	1,0	3,2
	2 : 2,6	2 : 4,5	ou moins	2	0,4	1,7
	3 : 2,1	3 : 7,1	(≤2 dents) : 9,2	3	0,3	1,6
	4-7 : 0,3	4-7 : —	Unilatérale complète ou bilatérale (≥3 dents) : 3,6	4-7	0,1	1,0
Déplace- ment des dents (malaligned teeth)	—	% qui ont des dents aux deux arcades et présentement une malformation d'une dent antérieure*	Chevauchement (crowding)	"Score"***		
		39,0	< 4 dents : 15,5 ≥ 4 dents : 4,0			
			Migration (drifting)	0	57,8	
			< 3 dents : 10,5 ≥ 3 dents : 4,5	1-6	39,4	
				≥ 7	2,8	

† Basé sur 1.987 enfants (cohorte originale de 2.037 dont 50 exclus pour port d'appareil orthodontique)

* La malformation existe quand une dent est déplacée de 2 mm ou en rotation de plus de 45°

*** Score: nombre de dents de l'arcade supérieure en rotation d'environ 45° ou déplacées d'environ 2 mm à partir d'un alignement présumé idéal.
Puis nombre de dents en rotation de plus de 45° ou déplacées de plus de 2 mm.

Qu'on trouve une différence à la fois par territoire de résidence (DSC) et par origine ethnique n'étonne peut-être pas. Souvent les groupes ethniques se rassemblent dans des mêmes secteurs. Toutefois il est plus difficile de définir ce qui, dans le territoire outre le regroupement ethnique, expliquerait ces différences. Si l'occupation du père est un bon indice du niveau socio-économique, cette variable ne nous aide pas puisque les classes de la relation molaire ont une distribution voisine entre les catégories d'emploi. On ne peut pas dire à ce point si l'origine ethnique explique à elle seule les différences entre les territoires. Non plus quelles sont les caractéristiques sociales ou biologiques impliquées dans le concept de l'éthnie. Dans un second temps de l'analyse sur les problèmes de l'occlusion, nous aurons l'occasion d'étudier certains facteurs biologiques.

Les différences observées dans la classification selon la

relation molaire entre les quatre enquêtes sont peut-être dues à la nature même de la classification de Angle que Helm (7) a critiquée ainsi: "À l'occasion, on a fait valoir que la classification de Angle n'est pas assez différenciée pour des fins épidémiologiques, et on a aussi souligné que les traits morphologiques individuels des classes de Angle ne sont pas tous définis adéquatement. Comme on s'y attendrait, alors, on a démontré une pauvre fiabilité intra et inter observateur dans l'enregistrement des classes de Angle". La variation inter observateur a été étudiée avant et après l'examen sur le terrain dans l'étude montréalaise. L'analyse détaillée de ces résultats n'est pas faite mais, à première vue à la répétition ultérieure de l'examen sur le terrain, il ne semble pas y avoir de variation considérable. Les données américaines et montréalaises se ressemblent. Il existe peu de données obtenues par échantillonnage

Tableau VIII
Indices de priorité de traitement. Pourcentage selon les catégories de l'échelle

	Survey of Can. Prov. (NHW) (Québec) 1968-1970	Nutrition-Canada (Québec) 1970-1972	Infante-Rivard Payette (Montréal)** 1978	NCHS (USA)* 1963
Aucune malocclusion	64,8	74,4	30,7	23,6
Malocclusion mineure	16,6		22,9	39,4
Malocclusion caractérisée Traitement électif	7,7	19,2	31,1	21,9
Malocclusion sévère Traitement désirable	2,9	6,4	11,0	11,3
Malocclusion très sévère Traitement urgent	—	—	4,4	3,8
Indice moyen de priorité de traitement	0,9	2,1	3,07	3,2

* Basé sur 2.310 enfants de 7 ans

** Basé sur 1.826 enfants: cohorte originale de 2.027; 50 éliminés à cause d'appareil orthodontique; 157 (7,9%) ont une classe de relation molaire inconnue et/ou aucune incisive en haut et en bas; 4 autres n'ont aucune incisive en haut et en bas.

scientifique sur la prévalence des problèmes d'occlusion comme tel; mais si on déduit ce que peut être la relation molaire à partir des estimés de besoins de traitement dans trois études du bloc Suède, Norvège et Danemark rapportées par Helm (6), il semblerait que les deux études québécoises ont largement sous estimé les problèmes d'occlusion. Dans la comparaison U.S.A.-Montréal, même la répartition des inconnues de l'étude montréalaise ne pourrait changer le fait qu'il y a plus d'enfants américains en classe II et III que d'enfants montréalais. En classe II, les américains classent plus d'enfants blancs et en classe III, plus d'enfants noirs.

Lorsqu'on a étudié la relation incisive et l'occlusion croisée par rapport aux caractéristiques socio-démographiques collectées, des différences apparaissent. Parmi les résultats significatifs, on retiendra surtout toutes les composantes de la relation incisive et l'occlusion croisée qui manifestent des différences selon le lieu de résidence, la bécane incisive qui est significativement plus marquée chez les enfants d'origine anglaise et chez les enfants de race noire. À ce point-ci, nous ne saurions expliquer davantage les constations. Ajoutons toutefois que, dans l'étude américaine (5), on a démontré une fréquence significativement plus marquée de bécane incisive chez les noirs que chez les blancs. Quant à la relation incisive et l'occlusion croisée comparées entre les diverses études, deux constations s'imposent. Les données québécoises sont différentes entre elles et différentes des deux autres enquêtes. Les données montréalaises sont très semblables aux données américaines sauf pour le surplomb vertical. La raison de cet excès chez les américains n'est pas connue. Ils soulignent toutefois que seuls 7% des enfants ont un surplomb vertical de 6 mm ou plus, lequel ils considèrent peut être cliniquement significatif (dans l'étude montréalaise, on obtient 6,7% à 7 mm ou plus). Le déplacement des dents est difficile à comparer car les méthodes sont différentes. Les définitions de l'étude montréalaise manquent de précision et on peut-être entraîné une sous-estimation.

Dans une publication antérieure (3), nous avions conclu que dix pour cent des enfants avaient un besoin marqué de

traitement orthodontique. En faisant une analyse plus fine des mêmes données (i.e. en n'incluant que les enfants pour lequel le calcul est franchement possible), nous augmentons ce pourcentage à 15,3% pour atteindre une proportion comme celle des américains. Helm (7) propose que d'après les meilleurs estimés actuels, entre 14 et 18% des enfants d'âge scolaire ont un besoin urgent de traitement orthodontique. Notre estimé coïncide bien avec celui-ci. Une réflexion sur les ressources nécessaires pour rencontrer ce problème reste entière. Mais on peut difficilement y échapper maintenant que le problème est posé de façon fiable.

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Announcements

CANADA

Canadian Dental Association, 1981 National Convention, Calgary, Alberta, August 30-September 2, 1981. Contact: Dr. R.H. Headley, 7811 Elbow Drive S.W., Calgary, Alta. T2V 1K3.

May/mai

College of Dental Surgeons of British Columbia Convention, Hotel Vancouver, Vancouver, B.C., May 19-22, 1981. Contact: Venue West Executive Services Ltd., 1704 — 1200 Alberni Street, Vancouver, B.C. V6E 1A6.

Ontario Dental Association 114th Annual Spring Meeting, The Sheraton Centre, Toronto, Ontario, May 24-27, 1981. Contact: Mrs. W.C. Durham, 234 St. George Street, Toronto, Ont. M5R 2P1.

The 29th Annual Westcoast Dental Radiology Workshop, Empress Hotel, Victoria, British Columbia, May 21-24, 1981. Contact: Dr. Colin Price, Dept. of Oral Medicine, University of British Columbia, 2199 Westbrook Mall, Vancouver, B.C. V6T 1Z7.

June/juin

Fourth Canadian Congress of Dentistry for Children, Harbour Castle Hotel, Toronto, Ontario, June 5-7, 1981. Contact: Dr. Keith Titley, 48 Cleveland Street, Toronto, Ont. M4S 2W2.

The Association of Canadian Faculties of Dentistry L'Association des facultés dentaires du Canada House of Delegates will meet at the Convention Centre, University of British Columbia, June 16-18, 1981. The Research, Education and Executive will meet June 14-15. Contact: Dr. J. Ton-zetich, 2075 Westbrook Mall, University of British Columbia, Vancouver, B.C. V6T 1W5.

Yukon Dental Association's 1981 Convention, Kluane National Park, Yukon Territory, June 26-28, 1981. Contact: Dr. John Stern, 309 Wood Street, Whitehorse, Yukon Y1A 2E7.

Atlantic Provinces Dental Convention, Moncton, New Brunswick, June 28 to July 1, 1981. Contact: Dr. Michael J. Crompton, 567 St. George Blvd., Moncton, N.B. E1E 2B9.

Convention Dentaire des Provinces de l'Atlantique, Moncton, N.B., 28 juin au 1 juillet 1981. Pour plus de renseignements: Docteur Michael J. Crompton, 567 boul St. George, Moncton, N.B., E1E 2B9.

July/juillet

Western Canada Dental Society Convention, Winnipeg Inn, Winnipeg, Manitoba, July 1-4, 1981. Contact: Dr. Ted Derrett, Chairman, 1981 W.C.D.S. Convention, 300-296 Kennedy Street, Winnipeg, Man. R3B 2M6.

August/août

Canadian Academy of Prosthodontics Annual Meeting, Calgary, Alberta, August 28-29, 1981. Contact: Dr. B.M. Jackson, 22-22 Water Street S., Kitchener, Ont. N2G 4K4.

Canadian Academy of Endodontics, 1981 Annual Meeting, Vancouver, British Columbia, October 16-18, 1981. Contact: Dr. Barry Chapnick, 235 St. Clair Ave. W., #103, Toronto, Ont. M4V 1R4. Phone: (416) 922-5115.

November/novembre

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto, Ontario, November 26, 1981. Contact: Academy of Dentistry, 234 St. George Street, Toronto, Ont. M5R 2P2.

International

June/juin

The First General Scientific Meeting of the International Association of Oral Pathologists in association with the Scandinavian Society of Oral Pathology and Oral Medicine, Gothenburg, Sweden, June 1-4, 1981. Contact: Dr. Guy Heyden, P.O. Box 33070, S-400, Gothenburg, Sweden.

XXIII Spanish Congress and 111 International Odonto-Stomatology, Valencia, Spain, June 1-5, 1981. Contact: Secretaria del Congreso, Avda de la Plata 20, Valencia 13, Spain.

95th Annual Meeting of the Colorado Dental Association, The Mark Resort Hotel, Vail, Colorado, June 17-21, 1981. Contact: The Colorado Dental Association, 6825 East Tennessee Avenue, Bldg. 2, Suite 265, Denver, Colorado 80224, U.S.A.

4th European Congress of the European Federation for the Advancement of Anaesthesia in Dentistry, Lugano Con-

gress Center, Lugano, Switzerland, June 18-20, 1981. Contact: Dr. Rene Charbon, Via Canova 18, 6900 Lugano, Switzerland.

American Dental Society of Europe Annual Meeting, Loews Hotel, Monte Carlo, Monaco, June 23-26, 1981. Contact: Hon. Secretary, Dr. Brian J. Parkins, 57 Portland Place, London W1N 3AH, England.

July/juillet

The IV Congress of the International Association of Dentistry for Children, Davos Switzerland, July 22-25, 1981. Contact: R.K. Hall, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052, Australia.

British Dental Association's 1981 Annual and Scientific Meeting, Newcastle upon Tyne and surrounding countryside, July 10-12, 1981. Contact: British Dental Association, 64 Wimpole Street, London W1M 8AL, England.

September/septembre

International Conference on Mercury Hazards in Dental Practice, Glasgow, Scotland, September 2-4, 1981. Contact: Prof. J.M.A. Lenihan, West of Scotland Health Boards, Dept. of Clinical Physics & Bio-Engineering, 11 West Graham Street, Glasgow G4 9FL, Scotland.

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Group, Dr. A.J. Venier, 33782 Marshall Road, Abbotsford, B.C., or phone collect to (604) 853-6441.

ALBERTA — Banff and Jasper. (Spring skiing paradise) Locums urgently required for each practice for the months of March and April. Opportunity for associateship after senior partner returns. Reply to: Banff (403) 4291; Home (403) 762-2067; Jasper (403) 852-4226.

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UNIVERSITY OF SASKATCHEWAN — College of Dentistry, Department of Pediatric Dentistry. Effective July 1, 1981 a full time faculty position will be available for a Pedodontist in the Department of Pediatric Dentistry, College of Dentistry, University of Saskatchewan. Experience in teaching, research and clinical practice is preferred. Eligibility for specialty certification is required. Professional consulting and practice privileges are available. Academic rank and salary commensurate with experience and qualifications. Letters of application, curriculum vitae and letters of reference should be sent to: Dean E.R. Ambrose, College of Dentistry, University of Saskatchewan, Saskatoon, Sask. S7N 0W0.

MANITOBA — Winnipeg. Oral surgeon certified to practise in Manitoba required for a busy practice. Object partnership. Please submit qualifications and curriculum vitae and recent photo to CDA Box Number 2054.

ONTARIO — Windsor. Lucum required for very busy general practice. Reply to CDA Box Number 2047.

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Applications with curriculum vitae and names of three referees or requests for information should be submitted to:

Dr. Ian R. Hamilton
Head, Department of Oral Biology
Faculty of Dentistry
The University of Manitoba
780 Bannatyne Avenue
Winnipeg, Manitoba, Canada.
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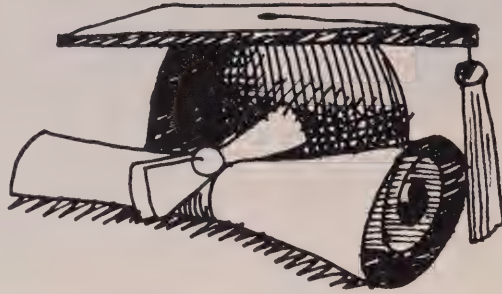
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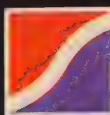


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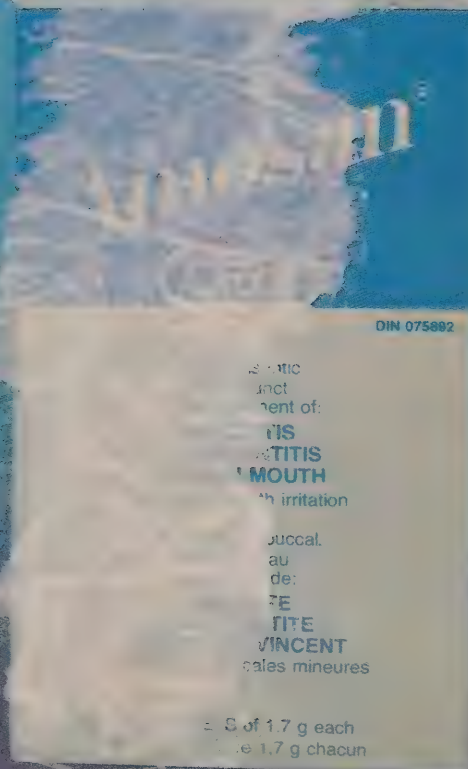
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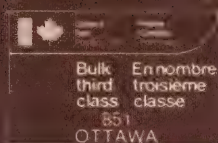
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1. Zacherl, W. A., "Clinical Evaluation of a Sodium Fluoride-Silica Abrasive Dentifrice." *Journal of Dental Research*, Vol. 60, Special Issue A, page 577, March, 1981.
2. Beiswanger, B. B., Gish, C. W. and Mallatt, M. E., "Effect of a Sodium Fluoride-Silica Abrasive Dentifrice Upon Caries." *Journal of Dental Research*, Vol. 60, Special Issue A, page 577, March, 1981.

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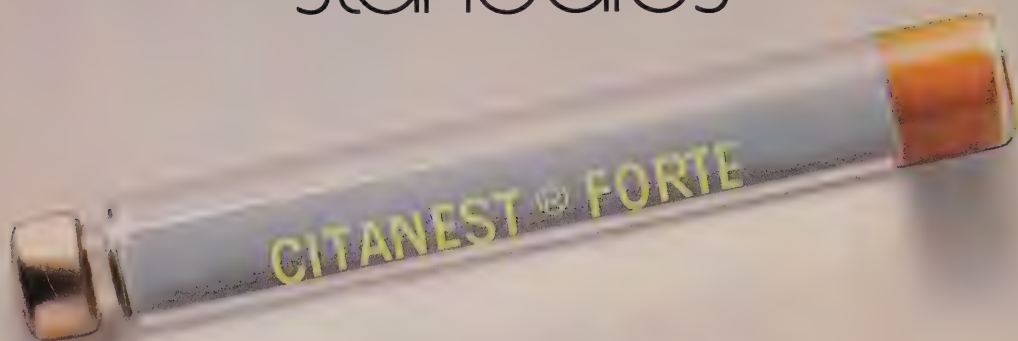


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Editorial

- 339 Dr. Clyde Covit of Montreal has closely examined alternate delivery systems and says one system, capitation, "is really a sugar-coated pill with a centre as bitter as gall."

In the News

- 345 Executive Director Hubert Drouin reports on a variety of subjects from the April 3 and 4 Executive Council meeting, including fluoridation, government relations and the conference on priorities.
- 345 Details of the Grieve Memorial Lecture, to be delivered at the CDA Annual Convention in Calgary August 30 to September 2 are outlined.
- 352 The topic "Challenge of Change" was dealt with by Dr. Arlen Lackey at Les Journées Dentaires du Québec in April.
- 354 The subject of capitation, both pro and con is closely examined.

Letters

- 342 A Kingston, Ont. orthodontist takes exception to the authors' position regarding individual rights in the fluoridation article which appeared in March, 1981 in the Journal.

Publications

- 348 **Dental Practice Management**
"... quite suitable as a school text and as a practical guide for the practising dentist."

Scientific

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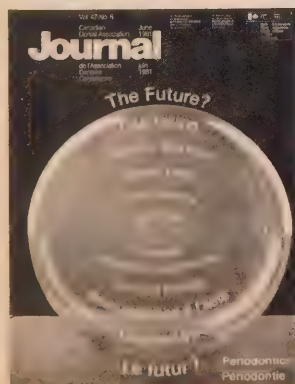
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Capitation
Periodontics

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ISSN 0709 8936

Dr Robert Sexton

WHAT MAY BE LEGAL IS NOT NECESSARILY RIGHT

Capitation, closed panels and contract practice are words with many meanings and although some of you may have not heard of them, you can rest assured that they will become quite apparent to you in your practice over the next few years.

A contract practice is established when an employer or administrator contracts directly with a dentist or a group of dentists to provide dental services for eligible members in a closed panel concept.

A closed panel practice is established if patients eligible for dental services in a private or public program can receive these services only at specified facilities by a limited number of dentists and is most frequently used where capitation funding for dental health care is involved.

Capitation is not an alternate delivery system but an alternate method of payment in which the contract dentist, rather than a third party intermediary assumes the financial risk of assuring that contracted dental services will be available to the patient. In return for a fixed per capita payment the dentist agrees to provide a specified set of services on demand and as needed to a subscriber group for a specific period of time.

Payment to the dentist is based upon the number of persons eligible for dental treatment during a payment period, whether or not the enrollees avail themselves of the dental services during that period.

However, in my opinion, capitation is really a sugar-coated pill with a centre as bitter as gall. You can call it an alternate delivery system or whatever else you may wish, but in reality we must call a spade a spade and capitation — a ripoff.

Look at it this way. The consultant/administrator is the first one to handle the cold cash and is assured of his share. The second party gets what is left and both the dentist and patient are vulnerable. The participating dentist has contracted to provide the services for a set fee before he really knows what he is going to do or who he will do it for.

The award-winning motion picture "The Godfather" is

very specific about what a contract is and, quite simply, it means the demise of some particular person. I have to look at some forms of contract practice in the same light as they spell out the demise of dental practice as we know it today.

What does all this mean? It means that ultimately the dentist will find himself in a dilemma, especially when the demand for services outstrips the capitation fee. Will he cut services even though he has a contract? Will he secretly cut quality, either in materials, skills or time? Or, will he flounder along or fail as do the majority of programs compared with the few successful ones?

Unfortunately, both the dentist and the patient suffer. The dentist not only loses money, he sacrifices professional integrity, while the patient is cheated out of quality care.

Nevertheless, individuals can basically elect to stay with the old tried and true or do what a few wish to do. Advertising, contracting and cutting deals are of course not illegal. However, there are a lot of things that are legal that are not necessarily right.

It is logical to conclude therefore that the difference in frequency, type of services and value of services provided under capitation systems result from the conflicting demands placed on the dentist by the added element of assured risk. It appears that when the element of dentist risk is removed under the fee-for-service approach, practitioners are more likely to perform work in keeping with higher professional standards and provide more comprehensive care.

Clyde Covit, d.d.s.
Montréal, Québec

EDITOR'S NOTE:

To arrive at this conclusion, Dr. Covit produced material on both capitation and fee-for-service. To invite readers' views and to promote discussion within the profession, we reproduce an edited form of the material as a service to the reader. Please see Page 353.

CE QUI PEUT-ÊTRE LÉGAL N'EST PAS NÉCESSAIREMENT BON

Capitation" ou rémunération par tête, circuits fermés, pratique contractuelle, voilà des expressions qu'on peut interpréter de diverses façons. Si certains d'entre vous n'en ont pas entendu parler, elles leur deviendront de plus en plus manifestes au cours des prochaines années.

Il y a pratique contractuelle, lorsqu'un employeur ou un administrateur conclut une entente directement avec un dentiste ou un groupe de dentistes pour dispenser des soins dentaires à un groupe de patients admissibles, comme dans un circuit fermé.

Il y a pratique en circuit fermé, lorsqu'en vertu d'un programme privé ou public, les patients admissibles reçoivent les soins dentaires d'un nombre limité de dentistes et à des endroits spécifiés. Cette pratique est utilisée le plus souvent en rapport avec le financement par "capitation" des services de santé dentaire.

La "capitation", ou rémunération par tête, n'est pas un nouveau mode de prestation des services, mais un nouveau mode de paiement, selon lequel le dentiste contractant, et non une troisième partie intermédiaire, assume l'obligation de rendre accessible au patient les soins dentaires prévus de même que le risque financier que cela représente. Contre une rémunération établie pour chaque bénéficiaire, le dentiste s'engage, pour une période de temps donnée, à dispenser, sur demande et selon le besoin une gamme de soins spécifiés à un groupe d'abonnés.

L'honoraire de dentiste dépend du nombre de personnes admissibles aux soins dentaires pendant la durée du contrat, que les bénéficiaires se prévalent ou non des soins dentaires pendant la même période de temps.

A mon avis, cependant, la "capitation" ne fait que dorer une pilule amère comme le fiel. On peut l'appeler un nouveau mode de prestation des services, ou autrement. En fait, comme il faut appeler les choses par leur nom, la "capitation" est un marché de dupes.

Voyons les choses ainsi. Le consultant ou administrateur est le premier à manipuler l'argent; il est assuré d'avoir sa part. La partie de deuxième part reçoit ce qui reste, et tous deux, le dentiste et le patient, restent vulnérables. Le dentiste participant s'engage par contrat à fournir des services pour un honoraire fixe, avant de savoir vraiment ce qu'il aura à faire et à qui il le fera.

Le film "Le parrain", qui s'est mérité plusieurs prix, dit explicitement ce qu'est un contrat: en toute simplicité, c'est l'élimination de certaines personnes. Je dois considérer de la même façon certains contrats de pratique, qui signifient clairement l'élimination de la pratique dentaire telle que nous la connaissons aujourd'hui.

Qu'est-ce que ceci peut bien vouloir dire? Ceci signifie qu'en fin de compte, le dentiste se trouvera dans un dilemme, surtout si la demande de service dépasse l'honoraire de "capitation". Réduira-t-il les services, nonobstant le contrat? Réduira-t-il la qualité en douce, qu'il s'agisse du matériel, de l'expertise ou du temps? Ou bien, vivotera-t-il ou échouera-t-il comme la plupart des programmes de ce genre, dont quelques-uns seulement réussissent?

Malheureusement, ce sont le dentiste et le patient qui en font les frais. L'un y perd non seulement son argent mais y sacrifie son intégrité professionnelle, l'autre se fait frustrer dans la qualité des soins.

Néanmoins, chacun est libre de choisir la voie éprouvée de l'expérience ou d'en suivre quelques-uns dans ce qu'ils veulent faire. La publicité, les contrats et les marchés à rabais ne sont évidemment pas illégaux. Il y a cependant bien des choses qui sont légales sans être nécessairement bonnes.

On peut donc conclure logiquement qu'en ce qui a trait à leur répartition, à leur nature et à leur valeur, la divergence des services offerts sous les régimes de "capitation" découle du tiraillement que le nouvel élément de risque certain impose au dentiste, face à ce qu'on attend de lui. Il semble qu'en écartant cet élément de risque dans un régime de rémunération à l'acte, le dentiste est le plus enclin à accomplir sa tâche avec un haut degré d'excellence professionnelle et à dispenser des soins plus étendus.

Clyde Covit, d.d.s.
Montréal (Québec)

NOTE DE L'ÉDITEUR

Pour arriver à cette conclusion, le Dr Covit nous offre une documentation concernant à la fois la capitation et la tarification à l'acte. Afin de connaître le point de vue du lecteur et d'entamer un dialogue au sein de la profession, nous reproduisons un résumé sur le sujet. Voir page 364.

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Takes exception

I am writing in response to the section: *Freedom of Choice* found in the article "Analyzing Selected Criticisms of Water Fluoridation" which appeared in the March edition of the journal.

As a dentist I support the views of the authors regarding fluoridation, to the extent that both my children receive fluoride tablets. I do however take exception to several comments by the authors regarding the rights of the individual versus the will of the majority. The authors state that "the citizens of democratic states cannot properly claim that liberty is absolute". This may be true but neither should we accept the absolute rule of the majority. The principle that the state (the supposed majority), somehow representing society as a whole, owns the citizen's life explains many laws in Canada today. When the rights of the individual remain ignored, "public interest" is usually decided on the basis of the pressures exerted by various lobbying groups. We as dentists are unsympathetic to the plight of our physician friends whose basic individual liberties, as well as those of their patients, have been grossly violated under the medicare schemes. Only when dentistry becomes socialized will we issue concern. However, to quote the authors, we may rest assured that "our individual concerns should centre more correctly upon the premise that liberty of action was not interfered with arbitrarily".

The authors state that "no one is forced to drink fluoridated water as free fluoride sources are available." Of course they haven't considered the inconvenience and expense of this let alone that person's individual loss of liberty. Imagine for a moment if the majority of Canadians were smokers, what reassurances I would have as a non-smoker to know that fresh air sources would be available to me.

Having to leave rooms, sit at the front of planes as well as endangering my health is of no concern to the authors, as I will always have access to my fresh air source.

The authors state that the "inability of children to determine the benefits of health measures such as immunization or fluoridation often requires society to make the critical decisions." I ask you; is fluoride truly a critical decision? If this is the case why stop here? Let's legislate that all parents under law must take their children to the dentist twice a year. Big brother is proud of you. 1984 is not even here, yet you are already marching to the tune.

As members of a democratic society the authors state that "the proponents and opponents alike, regardless of their zeal should allow public scrutiny of an issue if such a demand arises." However, they should also recognize the right of the individual to pursue his own goals without coercion from others. It is interesting to note that this basic principle has already been accepted by most men.

Dr. T.J. Swaine
Kingston, Ont.

Appalled

The letter entitled "Wild scheme", appearing in the No. 5, 1981 issue of the Journal of the Canadian Dental Association, left me completely appalled.

Surely, differences of professional opinion can be expressed in less vitriolic form and without resort to "argumentum ad hominem", which, in the eyes of the most literate of contenders, is considered to be the least palatable form of debate.

In my readings of Revelations, I cannot recall ever having seen the quotation of the text as conveyed by the author of "Wild scheme". My exposure to Biblical teaching impressed upon me two great lessons, namely:

Love thy neighbor as thyself.

Judge not that ye be not judged.

Have the dignity and prestige of either the Journal or the author been enhanced by the letter, even admitting the right to freedom of expression?

Dr. Herbert Caplan,
Montréal, Québec

More information

Editors Note:

Further to the story "Canadian invention will break new ground in field of forensic dentistry", (March, 1981).

Faculty working with Dentify at the University of Saskatchewan did not create the microengraver. They were asked to try and improve on the design of the inventor — George Sausele of Lynnfield, Mass. George Sausele built the original microengraver under contract to Dentify Canada. The College of Engineering recently completed design improvements on concepts that were originally outlined by Dr. Samis.

B.C. Update

The article "British Columbia Negotiates Agreement" in the April CDA Journal accurately reflected negotiations at the time the article was written. Unfortunately, the specialty schedules for endodontics and periodontics had some problems and until further negotiations are complete, these specialties will continue at 110 per cent of the 1981 G.P. rate for referred patients.

Dr. T.E. Ramage, President
College of Dental Surgeons
of British Columbia

The Journal of the Canadian Dental Association is pleased to make this space available for "Letters to the Editor". All letters must be signed and the editor reserves the right to edit communications according to space requirements.

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356 Rue Principale

QUEBEC — MONTREAL

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* Source: Independent syndicated audit conducted in 1979.

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Executive director reports on Executive Council



Hubert Drouin

The Canadian Dental Association Executive Council met on April 3 and 4, 1981 in Ottawa. The following highlights have been prepared for your information.

FLUORIDATION

Council reviewed the recent material on fluoridation which was distributed to the press and all those listed in the CDA Directory of Officials.

The result of this initiative has yet to be evaluated and it was felt that any feedback will occur as the issues of fluoridation are debated at the various municipal levels. The Canadian Medical Association and the Canadian Public Health Association have renewed their endorsement of fluoridation.

SEAL OF RECOGNITION

Council approved a modification to the dentifrice "Colgate". The new Colgate formula is a dual formula containing sodium monofluorophosphate and sodium fluoride. To date CDA has approved the following products in its program:

Colgate	(modified)
Crest	(modified)
Aquafresh	
Aim	
Listermint	

MERCURY IN THE DENTAL OFFICE

A study is being carried out by Dr. Derek Jones at Dalhousie University on mercury contamination in the dental office. This project receives financing from several sources and CDA has approved a grant of \$2,000 to assist in this project.

CDA CONVENTIONS

The CDA convention is being held in Calgary at the Convention Centre. The headquarters hotel is the Four Seasons and members are urged to register early to assure accommodation at the hotel of their choice.

Comments are invited from governors and corporate members about the suggested convention format for the 1983 meeting in Vancouver.

AD-HOC COMMITTEE — LICENSING AUTHORITIES / CDA

An ad-hoc committee under the chairmanship of Dr. W.R. Thompson was formed to discuss a structure to permit the exchange of ideas and items of interest to licensing authorities. This committee is comprised of: Brig-Gen. W.R. Thompson, Dr. P.R. Crawford, Dr. J.G. Thompson, Dr. Jean-Guy Landry, Dr. B.P. Martinello, Dr. K.F. Pownall, and will be meeting again prior to June in an expanded format with representation from all licensing authorities. A report will be prepared for consideration by the Board of Governors.

MEMBERSHIP

Membership statistics for Ontario and Quebec were presented. There is a

shortfall of approximately 300 dentists compared with last year.

A telephone campaign will be initiated in mid-April to canvass all non-members in both provinces and a report made to the Executive Council.

GOVERNMENT RELATIONS

The president reported on several meetings held with Medical Services Branch, Health and Welfare Canada. He advised that a freeze has been placed on the placement of dental therapists and that further meetings are anticipated following a meeting April 16 of regional dental officers to review the status of the school of dental therapists presently located in Fort Smith.

Several meetings have also been held with Health and Welfare regarding fluoridation, manpower distribution, health promotion and staffing for a senior dental consultant's position. The position has been classified as a DE 4 and is considered to be executive or management level. An advertisement for this position appeared in the May and June issues of the CDA Journal. CDA has been invited to provide a representative to the selection committee.

CDA COUNCIL — COMMUNICATIONS

In an effort to improve the exchange of information, Executive Council approved the exchange of council minutes among chairmen. The highlights of the Executive Council minutes will be prepared by the Executive Director and circulated to the Governors and Corporate Members following the two Executive Council meetings which are not scheduled immediately prior to the CDA Board meetings.

In the News

ALTERNATE DELIVERY SYSTEMS

Executive Council recommended that the Editorial Board consider developing articles providing information on dental care systems.

Council also approved the formation of a sub-committee of the Council on Health Care. Its main objective will be to study, evaluate and make available information on the planning, administration, delivery and funding of dental care systems.

CONFERENCE ON PRIORITIES

Executive Council reviewed the report prepared by the participants who attended the Conference on Priorities March 4-5, 1981 in Montebello. Two recommendations from this conference were adopted by the Executive, one dealing with manpower and a second regarding a member survey.

More specifically, several meetings on manpower have recently been held by the Management Committee and various experts in manpower studies. And following confirmation by the Conference on Priorities, it has been decided that the CDA engage a consultant responsible for the development of a dental manpower evaluation plan.

The second recommendation for a member survey has been referred to the Membership Committee for implementation. (See Test your Membership I.Q. insert in this issue.)

The other recommendations from the Montebello conference have been referred to the appropriate councils for consideration and it should be noted that some of the recommendations have already been acted upon.

TAXATION

A brief concerning tariffs on dental materials has been prepared for submission to the Honorable Pierre Bussières, Minister of State in the

Department of Finance. It should also be noted that contacts have been established with the Conservative caucus and that an amendment to Bill C-50 has been proposed by the Honorable Marcel Lambert.

CDA has also attended a meeting called by Health and Welfare to discuss the possibility of a study to review the effect of tariffs on all dental materials and the eventual passing on of additional costs to the general public. The CDA will continue to encourage the Minister's support in this matter.

The Taxation Committee has recently met with representatives of the

Canadian Bar Association, Canadian Medical Association and Canadian Institute of Chartered Accountants to explore the formation of a multi-professional committee to review pension plans for self-employed individuals. The committee will be investigating the right for the self-employed to create tax-sheltered pension plans, as well as looking at existing mechanisms for professional incorporation.

Hubert Drouin
Executive Director

Course offered

For dentists interested in updating or constructing new offices, two one-day dental architect programs are being held in Seattle, Washington next month.

Sponsored by the Pacific Institute for Health Professions, a non-profit educational institution based in San Francisco, the programs combine aspects of dental practice management and architectural design.

Dental Architecture I, to be held by Dr. James Pride on July 17, deals with interior space design and office efficiency. Dr. Pride will be showing how to increase efficiency and production in the dental office through paper operatory, traffic pattern, cabinet and equipment design.

Dental Architecture II is a natural progression from the first program with Dr. Pride outlining the construction process. Some issues which will be examined are designing and building within a budget; negotiating, hiring and paying the architect, contractor and interior designer; the three essential criteria to proper site selec-

tion; and what costly construction pitfalls can be avoided through planning.

The second program, to be held July 18, will emphasize the financial aspect of constructing a dental office and will discuss high interest rates and how to save valuable construction dollars and time.

For application and further details, interested dentists are asked to write or call the Pacific Institute, 2472 Clay Street, San Francisco, California, 99115. (415) 931-6816.

Faculty News

University of British Columbia

... Dr. Diana Turilloff, a medical geneticist, has been appointed Research Associate in the Department of Orthodontics. She joins Dr. V. Diewert and Mrs. Barbara Tait in their research on craniofacial growth in normal palate development and cleft palate malformation. Dr. Turilloff received her Ph.D. from McGill University.

Why Increase the Fluoride Level?

When is 1.2 parts per million (or mg/L) considered the optimal fluoride level in water supplies to prevent tooth decay?

The theory is that the average annual consumption of drinking water depends upon climate. In the 48 states of the USA directly south of Canada, the recommended optimum varies from 0.7 mg/L in hot, dry Arizona to 1.2 mg/L in much cooler Montana.

GUIDELINES FOR CANADIAN DRINKING WATER QUALITY 1978. (1) These approve of 1.0 mg/L, except where the annual mean daily maximum temperature is less than 10 degrees C in which case they recommend 1.2 mg/L.

CRITERIA DOCUMENT IN SUPPORT OF A DRINKING WATER STANDARD FOR FLUORIDE, CANADA, 1979. (2) This recommends that "the optimum concentration of fluoride in Canadian drinking water be established at 1.2 mg/L."

The optimal level must include fluoride naturally present. It may be accomplished (a) by adding fluoride to fluoride-deficient water; (b) by blending two or more water sources, or (c) by partial defluoridation. This last hardly applies to Canada, as excessive levels of fluoride are considered to be only those that are more than twice the optimum (3) and natural readings of more than 2.4 mg/L are extremely rare.

(1) Prepared by the Federal-Provincial Working Group on Drinking Water of the Federal-Provincial Advisory Committee on Environmental and Occupational Health, published by authority of the minister of National Health and Welfare.

(2) Final Report, published by the Canadian Public Health Association.

(3) Accepted Dental Therapeutics, 38th edition, p 317. Published by the American Dental Association.

The Ontario Health ministry has issued new guidelines suggesting the increase of the fluoride level in drinking water in Metro Toronto to 1.2 ppm, but a final decision has been postponed until all health boards in Metro give their approval.

Grieve Lecture

This year's Grieve Memorial Lecture will stress the need for co-operation between the orthodontist and the general practitioner when providing dental care to the adolescent.

Dr. C.R. Castaldi will explain how orthodontic care can present a dilemma. He feels traditional approaches to dental care for the adult patient often do not provide for the special restorative needs of the adolescent.

The Grieve Memorial Lecture is a key part of the CDA Annual Convention, to be held from August 30 to September 2. Dr. Castaldi will be speaking on August 31 at 10:30 a.m.

Provincial News

At the annual meeting of the Prince Edward Island Dental Association, Dr. David O'Connell was re-elected to a second one-year term as president. Dr. Jamie Hodgson is the vice-president.

Obituaries/ Necrologies

FARMER, Paul, décédé le 25 février, 1981 à l'âge de 55. Gradué Université de Montréal, 1952.

FREEZE, George A., March 31, 1981. Born in Vancouver on May 3, 1926, Dr. Freeze graduated from the University of British Columbia with a B.A. degree and from the University of Toronto in 1953 with a degree in dentistry. He was first elected to the council of the College of Dental Surgeons of British Columbia in 1969 and a year later became President. More recently he served as the College representative to the National Dental Examining Board of which he was vice-president at the time of his death.

LARUE, George Armand, May 18, 1981. Graduated from University of Montreal, 1926.

Numéro du CDSPI number

CDSPI now has a toll-free number which is available to dentists across the country.

Calls may be placed to 1-800-268-3792 Monday to Friday between 9 a.m. and 4:30 p.m. Eastern Standard Time.

Tous les dentistes à travers le Canada peuvent maintenant appeler gratuitement le CDSPI, en composant le numéro d'appel téléphonique 1-800-268-3792 du lundi au vendredi entre 9.00 a.m. et 4.30 p.m., heure normale de l'est.

Publications

Larry R. Domer
Thomas L. Snyder
David W. Heid

Dental Practice Management

C.V. Mosby Co. 1980
(377 pages)
\$32.50

The Wright Brothers took flight with no other choice than to learn via trial and error. In comparison to this "flying by the seat of one's pants" the specialists of a modern flight crew leave little to chance. With the aid of a pre-flight check list and a detailed flight plan, every foreseeable contingency is covered before, during and after the journey to ensure safe and enjoyable travel.

To make an analogy between the captain of a sophisticated airliner and the dentist in his office is not difficult in terms of what it takes to achieve success. After many years of rigorous training with instructors looking over his/her shoulder, the young dentist, diploma in hand, "takes off" with the full weight of responsibility for the practice on his shoulders. In past eras when the graduate usually functioned as his own receptionist, hygienist, assistant, accountant, etc., few practices flatly failed, but not much dentistry was done either. Today dentistry is striving to maximize the flow of quality treatment to the public and this brings a great many variables in sophisticated equipment and trained personnel into play. Any complete book on management of dental practice should deal with all these links in the chain which have a bearing on the success of the practice.

The authors state the purpose of this book as the filling of a void for a comprehensive text on practice management for dental students and new practitioners stating three main goals:

1. Preparation of students and new practitioners for effective office management.

2. Suitable for complete school text.

3. A selection of contributors to give a broad range of expertise.

I. The Profession and Business of Dental Practice

The initial section nicely shows professionalism and sound business to be, via management, cooperative rather than antithetical. The authors are coherent and logical in their explanations.

II. Planning and Establishing a Practice

Strong emphasis is placed on an organized and systematic approach considering all the physical, personal and financial factors leading to short and long term success and personal satisfaction in the profession. The authors would appear somewhat naive in proposing a fairly rigid framework as a smooth vehicle towards these ends. It would perhaps seem more realistic if they had shown the guidelines in a more flexible light, evolving along with the practice, its goals and philosophies in the formative years.

III. Managing People — Staff and Patients

The authors rightly give importance to the need for on-going communication between and among the various people involved in dental care. To this end they propose an excellent checklist for hiring staff and delineating duties which would minimize disruptions of office harmony and facilitate efficient delivery of treatment. A subjective rapport is advised with patients as a warning against the tendency to be too objective and detached in treating their dental problems. While there are no startling insights in the chapter they reiterate sound philosophies which should always be kept in mind.

IV. Operational Records and Philosophies

Nothing is missed in a comprehensive enumeration of the day-to-day procedures which may be looked upon as mundane but which should never be allowed to become haphazard. Various systems for the charting, filing and financial control are touched on

and enough groundwork is presented to allow the practitioner to extrapolate for his practice needs. Perhaps a firm suggestion as to the acquisition of an experienced and knowledgeable accountant to supervise from the outset would have been in order.

V. Controlling and Building the Practice

Appropriately the closing segment cautions the dentist that the practice once established properly cannot be allowed to run itself entirely. A monitoring system involving periodic review and updating of all elements within the practice is advised to keep the practice vital and rewarding personally and financially.

There is little new in Dental Practice Management nor should it be expected that there would be. This is not the type of subject where revolutionary discoveries or viewpoints cause overnight change in our profession. Pertinent criteria for evaluating such a text are completeness, organization and readability. With these in mind, Domer, Snyder and Heid rate high marks for their efforts. The text serves very adequately as a thorough checklist for the student or new graduate to ensure that all factors that should be considered are in fact, considered. For the most part, while regaining all pertinent information, the authors are concise enough so as not to lose attention in rambling dissertation. If there is an element where we find fault, it would have to be their tendency to fall upon predetermined plans and formulae which might be too "pat" to allow the essential flexibility for individuals.

Overall we feel that Domer, Snyder and Heid have produced a work which solidly meets their stated objectives. Dental Practice Management is quite suitable as a school text and as a practical guide for practising dentists. While it is doubtful that a "definitive work" on this subject can be produced, this text comes as close as can be logically expected.

This review was prepared by Dr. Stewart Ferguson and Dr. Wayne Hills, Dartmouth, Nova Scotia.

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10-289 Printed January, 1981.



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Canada

Lecturer advises dentists not to view other dentists as their competitors

Dr. Arlen Lackey thinks it's time dentists stopped looking at other dentists as their competitors.

He feels members of the dental profession should instead work together and market dentistry as a caring, responsible and rewarding health service that's coping successfully with the challenge of change.

Several hundred of his colleagues packed Le Grand Salon ballroom of the Queen Elizabeth Hotel during the April convention of Les Journées Dentaires du Québec to hear his tips on how to do this.

"You have to market your services. And if you need more patients you have to market your image."

A California dentist who has been in private practice since 1965, Dr. Lackey has lectured throughout North America for the past year. His six-hour seminar outlines not only how a dentist can offer the best and most reassuring health care to his patients, but also keep ahead of inflation while doing so.

"To meet the challenge of change you have to combine creativity with confidence, prevention with production and management skills with professional judgment," Dr. Lackey said.

"We have been responsible in dentistry in keeping our fees down. But our fees are trailing inflation and our incomes are not keeping up."

Making the changeover to a more financially successful practice involves marketing your image, he said. Much of the present fear about too many dentists and too few patients can be resolved by those in the profession.

"There is really no shortage of den-

tal patients," he said. "But 50 per cent of the population only go to the dentist when they're in pain."

Dr. Lackey explained that with the middle class becoming more affluent and the blue collar class shrinking, there is an expanding market of patients for the dentist.

"This whole class is available for dental care, yet half of them don't go to the dentist," he said. "What you have to do is structure your practice to meet their wants.

"You have to market your services. And if you need more patients you have to market your image."

But according to Dr. Lackey, a dentist marketing his image must do more than add some new office furniture or update brochures.

It involves hiring the best possible staff and delegating responsibilities to them. It requires an extra effort to en-

sure patients that you really care about them — their fears, their financial concerns, their health. And for the dentist himself, it demands planning time, financial goals and priorities.

"Set a policy and stick to it 80 per cent of the time," Dr. Lackey said. "And for the 20 per cent of exceptions to that policy, only spend 20 per cent of your time worrying about it."

He said fitness and exercise is important not only for the dentist coping with stress, but also for the patients. In his own office, a small refrigerator holds fruit juice for both the staff and patients. No smoking signs are posted. New patients have their blood pressure taken.

"Humanize your environment," Dr. Lackey said. "Invite your patients and not other professionals to the



Marketing your services is what dentistry in the '80s is all about, according to California dentist Arlen Lackey. Dr. Lackey and his dental assistant Tony Vaira spoke to several hundred dentists in Montreal last April about the "challenge of change".

In the News



CDSPI Secretary Jeanne Otis and CDA Communications secretary Carmel Leroux manned the booth at last April's meeting of Les Journees Dentaires du Quebec. More than 1,500 members of the dental profession attended the Montreal convention.

opening of your new office. They're the best referral system you have."

Other tips the dentist offered to his audience involved practising what he called "effective communication." He suggested sending thank-you letters to new patients, writing the patient's name on brochures and making their charts more accessible.

"People start to get the idea that you really care about them," he said.

But he also emphasized that it was necessary to have financial control to present a successful practice image.

"Some people think financial control is chasing the pot of gold at the end of the rainbow," he said. It's not It's systems for success when dealing with credit, insurance and collection. If you don't have these systems, chances are your practice is out of control."

Dr. Lackey said written financial agreements were the best way to proceed with treatments, but he under-

lined that estimates should always be given first. He said a dentist should have some flexibility with payment procedures so a patient can feel comfortable in discussing money concerns.

"I find it's a human weakness that

most people's memory becomes a little vague when money is the topic," he said. "That's why you have to have credit control."

Dr. Lackey also gave hints on how not to get buried under the paperwork of insurance forms. He said in California, the dental association negotiated with the insurance companies to produce one universal claim form. He also advised dentists to have a manual outlining how to process the claims in the office in case the staff member who usually handles the work is absent.

By motivating and rewarding staff, Dr. Lackey said a dentist can employ people who will work smarter, not harder, with him. He suggested delegating responsibilities and creating incentive programs from which everyone in the practice benefits financially.

Dr. Lackey emphasized that the world was now shifting away from an industrial society to an information society. Through marketing, communication and financial control, he said dentists can meet the challenge of this change and offer quality care.

CDA Retirement Savings Plan

Unit values of the Canadian Dental Association's Retirement Savings Plan stood as follows on April 30, 1981.

<i>Common Stock Fund</i>	\$58.0012
<i>Fixed Income Fund</i>	\$24.2397
<i>Guaranteed Fund</i>	\$19.5947
<i>Balanced Fund</i>	\$13.3617

Total assets (market value) of the plan were \$34,927,225.

The previous month's figures, as of March 31, 1981, stood as fol-

lows:

<i>Common Stock Fund</i>	\$57.1339
<i>Fixed Income Fund</i>	\$23.4507
<i>Guaranteed Fund</i>	\$19.7926
<i>Balanced Fund</i>	\$13.0748

Total assets (market value) of the plan were \$33,767,210.

For further information write to: Canadian Dental Service Plans Inc., P.O. Box 7500, Station A, Toronto, Ontario M5K 1A0.

Dentistry faces major challenges in Canada with various alternate delivery systems

Dentistry in Canada is facing a major challenge. The threat of too many dentists, too few patients and a shrinking health dollar is placing increasing demands on traditional fee-for-service dentistry.

In the United States, these problems have already prompted the profession to offer its services in a myriad of new ways.

Capitation, closed panels and contract dentistry are just some versions of alternate concepts.

Dental services are now also being offered in department stores along with household wares and lingerie. Clip-and-save discount coupons are found on full-page dental ads in major U.S. newspapers. Franchises and networks are becoming an effective way to provide dental care to an entire region.

Few Canadian dentists appear to be aware of what is happening south of the border. But like a patient gingerly prodding an infected tooth, the dental profession in this country may be somewhat hesitant about learning more about alternate delivery systems.

OUT OF REACH

Yet these new systems are not going to disappear. Escalating costs are placing dental services out of the reach of many. Competition among dentists for patients is becoming stiffer. The dentist himself is finding inflation diminishing his income.

Changes in dentistry are going to happen. But the type of changes and how they should be implemented will not be agreed upon easily.

The high quality of dentistry in Canada must be preserved. Access to and availability of dental care to all segments of the population must continue to be assured.

Advocates of capitation claim their system can provide inexpensive, high quality dental service to a broader range of people than fee-for-service dentistry. But one must question whether there is any real advantage to having the components of good dental care outlined in the form of a legal contract.

Capitation dentistry is not an alternate delivery system, but an alternative method of paying for dental care.

Under capitation, a dentist receives compensation in advance from an employer or administrator of the program for agreeing to provide specific services for a set number of patients. The amount of these services is determined by actual patient need. The patient has no freedom of choice and can only visit a dentist participating in the capitation program.

SELLING TIME

What a capitation dentist is really selling is his time, not his services. If a patient, during the contract period, never shows up in the dentist's office for dental care, the dentist still receives his payment for that participant. Since studies have shown that less than 50 per cent of the population visits a dentist regularly, capitation proponents point to such a dental practice as being very lucrative.

But there are other benefits they claim the dentist can count on. Being paid in advance, the dentist can rely on a certain income every month when the administrator turns over the premiums. The mountain of paperwork which goes with dental insurance forms is eliminated. Pre-authorization of treatment is also eliminated and capitation advocates maintain that the dentist therefore has more control of the treatment.

ADVANTAGES DESCRIBED

But those dentists who have had capitation work successfully for them don't stop there. They say there are advantages for the patients as well. They describe capitation as "consumer" dentistry. Since services are all prepaid, advocates of the program say the financial conflict of interest is removed. They claim a dentist will no longer feel tempted to overtreat a patient because his income is no longer increasing in direct proportion to the services rendered. What results, they promise, is a dental practice which centres around the needs and desires of the patients. And since it is beneficial for both parties to have fewer dental restorative services, advocates say a greater emphasis is put on preventive dentistry.

For the employer, often a labor union, which is considering capitation, there are several benefits to the system. The major one is that the company or association will know beforehand exactly how much it is spending on a dental program. There are no unpleasant financial surprises. The system is also very politically attractive to governments because it becomes much easier to set budgets and future spending needs.

BASED ON UNKNOWN

Yet the whole system of capitation, for it to work successfully, is based on one unknown, unsettling factor: utilization. One must remember it is the dentist who is assuming the financial risk and if too many people take advantage of the services he has been prepaid for, the dentist is in big financial trouble. Even proponents of capitation don't argue with that.

But they say that's where marketing and management come in. The

wise dentist, they advise, must choose carefully the capitation group to become involved with.

Beware of groups which have a high dental education I.Q. and know the benefits of good dental care. Watch out for organizations such as retail or clerical unions where a large majority of the members are young women. These are the people who will visit you and require your services.

NOT TOO ACCESSIBLE

Capitation advocates also advise dentists not to make their hours too accessible. The lucky dentist, involved with a capitation program, will have some patients who live out of his region and find it too difficult to visit him.

A common question asked about capitation is does the dental care provided to patients compare with the care provided under fee-for-service dentistry?

Capitation advocates say yes. They claim that based on a co-payment system where the patient pays a surcharge for the more extensive treatment, the dentist can make as much money as under the fee-for-service system. Proponents say the dentist therefore has no reason to use cheaper materials or skimp on the best treatment required for the dental problem.

With this same co-payment system, capitation advocates point out that, once again through good management practices, the dentist can control utilization. Not surprisingly, fewer people will take advantage of their capitation program if they are required to pay part of the cost of their dental care directly out of their pockets.

Advocates also advise dentists to retain a healthy ratio (about 50 per cent) of their private fee-for-service practice. Not only is it something to

fall back on if the dentist's capitation patients require more services initially than he counted on, but it also gives him flexibility to handle patients outside the capitation program who may be referred to him by those in it.

For those in successful capitation programs, they claim advantages which they say just can't be found in fee-for-service dentistry. For instance, if a dentist is just one of several participating dentists in a large program, advocates claim he can then refer his patients to another dentist in the system, take a holiday, and not worry about income loss. The dentist has already been prepaid for agreeing to provide that participant care for the term of the contract.

And there are also seasonal advantages, they say. If the weather is poor and the private patient doesn't show up for his appointment, the dentist has lost that income. But the capitation dentist is paid regardless and can even book a private patient into that prepaid appointment just to make up the chair time.

Capitation advocates admit though that for the dentist wanting to initiate a capitation contract system for the first time, it won't be easy. Unions and companies like established track records such as the insurance companies have. But they claim that once the dentist has the first contract, the others will come. Companies looking at capitation programs will soon learn of the ones which work.

NOT SERIOUS PROBLEM

Regarding closed panels and the loss of a patient's freedom of choice in choosing a dentist, capitation proponents appear to feel it is not a serious problem. They say the loss goes both ways — the dentist also loses the right to choose his patients.

Even if there is a personality conflict with a participant, the dentist is still obliged to provide the care to that patient for which he has been contracted.

With so many advantages presented by the advocates, many dentists feel overwhelmed. In areas of the United States where fierce competition for patients has caused dentists to fear the loss of their practices, capitation seems the only means of securing new patients and keeping out the "carpetbaggers" from their patient territory.

It is this very fear, though, that capitation advocates exploit. They tell dentists that if they don't become involved with a program, some other dentist will provide this type of service to the union or company which wants it.

MUST BE UNDERUTILIZED

However, the very fact that a capitation program must be underutilized to be successful brings into question the entire premise the need for such a system is based on: in other words, does it actually provide dental care to more people? And cannot these same advantages be found in well-managed traditional practice modes when a solid patient-dentist relationship exists?

There are definite dangers to the system, not only because of the financial risk to the dentist, but also because there is potential for abuse in the area of quality care. One can so easily threaten the other.

Despite what the proponents say, there are many examples where capitation fees have been insufficient to provide the type of care which has been promised the patient. Even with successful programs, it is difficult to objectively evaluate the quality of care provided.

Opponents of capitation point out that the patient is unable to make clinical judgments. They say that while the placement of a large silver amalgam restoration, when a crown is indicated, may completely satisfy the patient's expectations, many dentists would agree this is less than optimal treatment. The program which may seem successful to the promoters may in fact be inadequate in the clinical aspect.

Also the initial attraction of patients to capitation programs because of the apparent lower financial cost may disappear. Opponents say the patient co-payment for more extensive treatment is in some instances almost as much as fee-for-services procedures.

Some capitation programs have a dual-choice system where patients have the choice to accept services from participating dentists or have coverage in an indemnity-type fee-for-service program. Although the premium is the same, the benefits under each may be quite different.

CONFIDENTIAL STUDY

For example, in 1977, the California Dental Service, The Delta Dental Plan of California, completed a confidential study for a major U.S. national corporation comparing the benefits received during 1976 under the company's dual-choice program in California. The company's employees could select either the Delta Plan or the closed panel capitation program.

The study showed that the capitation program performed more x-rays, but had a reduced number of restorations and extractions. The total number of routine procedures was approximately the same, but a significant difference appeared when the extensive procedures were compared. The capitation program showed 62

per cent fewer extensive procedures, meaning a net of 21 fewer procedures performed.

Perhaps one of the more remarkable individual differences showed the capitation program doing 69 per cent fewer crowns. The capitation plan did not report doing any surgical extractions, complex oral surgery or periodontics. It did report providing 158 per cent more removable partial dentures, but it did not provide any fixed bridgework.

CONFINED TO SYSTEM

Opponents claim there are more concerns for the patient. Poor access to a program will discourage the patient from going to a dentist. And like the dentist who has no choice in choosing his patient, the patient, in cases of a dispute, complaint or disciplinary action, is still confined to using the same delivery system in order to receive his benefits.

Opponents also charge that financial conflict-of-interest is not removed. If there is a miscalculation in either the utilization rate or capitation fee, the dentist is going to have to make a choice. He can either absorb the extra cost, perform fewer services or use less expensive materials. Co-payments originally agreed upon may not make up the difference and the dentist is then placed in the position of underwriting his losses.

Opponents say that capitation is best suited for group practices and the solo practitioner may find it much harder to work as part of a network. The capitation dentist is also subject to audit and to visits by ongoing professional evaluation committees to review practice standards. This can be either an advantage or disadvantage, depending on the individual dentist.

There is also a dispute over whether under a capitation system the paper-

work load is really any lighter. True, the dental insurance forms are eliminated, but it takes a lot of paperwork initially to come up with a premium fee acceptable to both parties. In addition, many capitation networks are required to furnish data on which to monitor performance.

Those in favor of capitation advise dentists to set priorities for their patients' treatment so expensive restoration procedures will not be lumped together in one year. The eventual goal is naturally to have the patient on maintenance care so the dentist is then earning his monthly premium for little work.

In theory, it sounds feasible, but opponents claim there are inherent problems. They point out that the practice will usually lose money during the beginning of the program. Also, renewal capitation contracts may call for a reduced payment to the dentist who's hoping to make up his loss with a second contract.

Too high a proportion of capitation in the practice makes the entire practice vulnerable to premium reduction, or the dentist may even be forced to increase his services for fear of losing the contract. If the contract is lost on renewal, the dentist may lose the entire group of patients and the expected profits from those now on maintenance.

ONE OR TWO-YEAR?

The typical capitation contract is for one or two years. Opponents claim that unfortunately, the one-year contracts are increasing in number. Consequently there is a danger that pacing may delay needed treatment until the contract period is over. The result is the dentist has undertreated or inadequately treated his patient which again brings in the argument of financial conflict of interest. Under

In the News

The whole basis of a capitation program, in terms of financial viability, depends on the premium rate. It has to be negotiated so it can generate sufficient income for practice.

Since under a capitation system, units of time are being sold rather than units of service, all computations are based on units of time.

Reproduced below is the basic formula proposed by Dr. Max Schoen in his publication entitled "Methodology of Capitation Payment to Group Dental Practice and Effects of such Payment on Care", January-February, 1974.

$$R_1 = U [(T_{AD} \times C_D + T_H \times C_H) + S (T_{AD} \times C_D + T_H \times C_H) + D (T_{DD} \times C_D + T_H \times C_H)]$$

$$R_2 = F \times U \times M (T_M \times C_D + T_H \times C_H) + L (R_1)$$

$$R_n = \text{Same as } R_2$$

where:

R_1 = premium rate per family for

U = average annual utilization rate

T_{AD} = number of dentist hours required per adult for initial year

C_D = cost per dentist hour

T_H = number of hygienist hours per person for initial year

C_H = cost per hygienist hour

S = average rate per spouse per employee or subscriber

D = average number of dependents

T_{DD} = number of dentists' hours per child for initial year

R_2 = premium rate per family for second year

F = average family size

M = per cent of all persons covered for subsequent year

T_M = number of dentists' hours per person for subsequent year

I = per cent of all persons covered first time in year

R_n = premium rate per family for any subsequent year

However, the above formula does not address laboratory charges, inflation or profit. Dr. Schoen suggests a co-payment or surcharge be assessed for those item of dental treatment which require outside laboratory procedures — this will then handle laboratory charges.

In calculating the rate one must assess the current and anticipated rate of inflation and multiply the second and third years rate by the percentage of inflation and add it to the basic premium structure. In the case of profit, one must establish not only the level of profit, but also the need to retain income to cover unexpected expenses such as outside referrals and also provide for updating the equipment and other aspects of the practice.. Profit must be added in all three years.

The rates so determined for each of the three years is then added and divided by three which establishes a level premium for the three-year period of the contract.

capitation, a patient may not know he is being undertreated because the dentist is watching his costs. Under fee-for-service care, the dentist who is overtreating for the same reason or because he wants to increase his income is controlled to some degree by the patient. The patient can always say no to the treatment plan and cost.

Other costs the capitation dentist will have to pay include an approximate 15 to 20 per cent fee to the administrator, who assumes no financial risk, and fees to advisers he will require for management of such a practice.

HIDDEN COSTS

Opponents say there are also hidden costs. High utilization of auxiliaries means more staff training time and more staff administration time. The dentist may also be at risk in terms of emergency care and specialist treatment if he is not available or if the patient is out of town.

Whether capitation can prove successful or not will depend on the number of contracting patients who will actually use the dentist's services and if the dentist and his advisers have negotiated for an adequate fee for those services.

Yet the patient-dentist relationship and the quality of service performed are still governed by the professional integrity of each dentist. No system and no contract can legislate ethics or morality.

DEMAND FOR ECONOMY

There is no denying there is a definite demand for a more economical delivery system of dental care. But is capitation the answer? Can a system which relies on underutilization serve the needs of the population? Can the dental profession accept a system

which will provide cheaper dentistry to perhaps fewer people?

With capitation, there is more than financial risk for the dentist. He is also risking his reputation, perhaps more so than in the traditional fee-

for-service dentistry. When the dentist is negotiating his fee with the program's administrator or with the company directly — he is counting on the fact that the majority of those participants will not use his services.

RCDS seeks ban on capitation

The Royal College of Dental Surgeons of Ontario wants closed panel capitation made illegal.

Early in May, college representatives met with Ministry of Health officials to discuss a change in the regulations of the Health Discipline Act.

College President Dr. C. Doughty told the Journal that right now the act is "silent" on the issue of closed panels. He said the college has "serious concerns" about the closed panel system of dentistry and wants "changes that would virtually prohibit that type of system."

One reason for the concern is that with closed panel dentistry, the patient in the program has no freedom of choice in choosing his dentist. He is limited to dentists participating in the program.

Dr. Doughty said the college is also concerned "in a more general way about the financial pressures the dentist is put under" in a closed panel system.

"The dentist really becomes his

own insurer and we don't know if that's a good thing," he explained. "If the dentist eventually faces bankruptcy, human nature being what it is, it can't help but affect his work.

"They've had problems like these in the States and we don't need these types of problems in Ontario too."

Dr. Doughty said the college feels traditional fee-for-service dentistry is a lot "safer in the long term" when it comes to quality care.

He said some ministry officials feel closed panel capitation may restrict dentists from overtreating patients, but the college believes that under such a system "undertreatment" becomes a threat instead.

No final decision was made at the meeting, but Dr. Doughty said the college will continue to hold discussions with the ministry on the issue.

Ontario Dental Association President, Dr. Bradley Holmes also told the Journal the college has the full support of the provincial association in its attempt to make closed panels illegal in Ontario.

WHO Fellowships available

World Health Organization fellowships are available for all health personnel in dental, medical, paramedical and health-related fields.

The two-to-three month fellowships will allow Canadian citizens to study abroad.

Eligibility categories include: dentistry and dental auxiliaries; veterinary medicine and veterinary assistants; engineering and sanitary science; nutritionists; laboratory technologists; law, rehabilitation; and administrators and teachers in all these fields.

Applicants will be rated by a Canadian selection committee on the basis of education, experience, field of activity, proposed area of study and intended use of newly acquired knowledge.

Forms must be submitted by August 31, 1981 to: WHO Fellowships, Intergovernmental and International Affairs Branch, Department of National Health and Welfare, Brooke Claxton Building, Tunney's Pasture, Ottawa, Ont. K1A 0K9.

Annual meeting

The 1981 Annual Meeting of the Board of Governors of the Canadian Dental Association will be held on August 28-29, 1981 at the Four Seasons Hotel, Calgary, Alberta, commencing at 9 a.m. on August 28.

"The World Is Definitely Over"
C. Columbus, Hygienist.

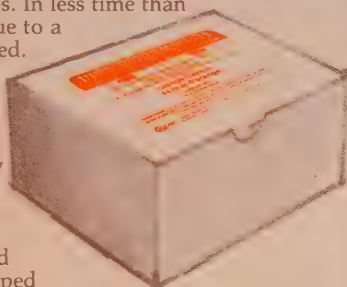


A great many hygienists were aghast when I first advanced my theory that an oval unit-dose prophylaxis dispenser is superior to a round one. "Quit trying to change the world, Columbus," they scoffed. But I remained strong in my conviction.

Round cups would spin endlessly as I used prophylaxis angle, thus consuming my time. I could easily retrieve all of the prophylaxis paste from the cup thus creating waste and vexing my coin.

Fortunately, neither the financing experiment nor with oval prophylaxis dose theory. 1982, my world changed. I was placing an order for toothbrushes from my Oral-B® representative—Isabella by name—when, in conversation, I mentioned my theory. She visibly glowed with excitement at the proposition. "I'll give it with me," she said. "Indeed," I countered.

I carried on wasting time and money with those round cups. In less time than it takes to explain plaque to a patient, Isabella returned. It is Christopher, PRO-PORTION™ II dose cups. A novel design for pick-up by prophylaxis angle and because of the shape, you have a finger scooping area which eliminates wasted paste. Each cup is wrapped in an airtight, sanitary seal which guarantees freshness of the paste consistency. We have three different grits: Fine with a strawberry flavour, Medium grit with an orange flavour, coarse grit with a mint flavour. Each is packed in a box of 200 cups. And each box of PRO-PORTION II also contains an anodized ring cup holder that



won't stain your finger after prolonged use." I could hardly contain my delight with PRO-PORTION II. "What of the prophylaxis paste itself," I ventured.

"It is of the finest quality, Christopher," she soothed. PRO-PORTION II paste contains 1.23% fluoride ions in a compatible base. The formulation will not dry out or separate. Its smooth texture is non-splattering and non-foaming."



I felt the sooner the world knew of this discovery, the more enlightened that world would be. I've put together an introductory offer for PRO-PORTION II and plan to offer it in the New World. I leave tomorrow on the Santa Maria.



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→ corrections subséquentes



des malaise "d'ajustement" des dentiers

Entre l'insertion initiale du dentier et les corrections subséquentes, même les prothèses les mieux ajustées peuvent causer des douleurs et irriter les gencives. Orajel/d peut soulager ces malaises désagréables.

Vous connaissez le puissant effet analgésique local de la benzocaïne à 7,5% (l'ingrédient principal d'Orajel/d). Mais, peut-être, n'en connaissez-vous pas l'unique base émoullente, qui adhère à la région affectée, grâce à ses propriétés calmantes et adhérentes. Il se peut, quoique rarement, que la benzocaïne et d'autres analgésiques locaux entraînent une sensibilisation des tissus au point qu'il faille cesser de les appliquer.

Donc, après la première insertion des dentiers recommandez Orajel/d pour apporter un apaisement rapide et durable de l'irritation.

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Rapport du directeur général



Hubert Drouin

Le conseil exécutif de l'Association dentaire canadienne s'est réuni les 3 et 4 avril 1981 à Ottawa. Voici, pour votre gouverne, les faits saillants de cette réunion.

La fluoration

Le conseil a passé en revue la documentation récente sur la fluoration, qui a été diffusée à la presse et à tous ceux dont le nom paraît dans l'Annuaire de l'administration.

Le résultat de cette initiative reste encore à évaluer et on n'en connaîtra vraiment les réactions qu'au moment où la question de la fluoration sera débattue dans les diverses municipalités. L'Association médicale du Canada et l'Association canadienne de la santé publique ont de nouveau appuyé les mesures de fluoration.

Le sceau de recommandation

Le conseil a approuvé les modifications apportées au dentifrice "Colgate", dont la nouvelle formule contient du monofluorophosphate de sodium et du fluorure de sodium. Jusqu'ici, l'ADC a approuvé les produits suivants:

Colgate	(modifié),
Crest	(modifié),
Aquafresh,	
Aim,	
Listermint.	

Du mercure au cabinet du dentiste

Le Dr Derek Jones, de l'Université

Dalhousie, poursuit une étude sur la contamination par le mercure au cabinet du dentiste. Outre les autres sources de financement, l'ADC a accordé au projet une subvention de 2 000 \$.

Le congrès de l'ADC

Le congrès de l'ADC a lieu au Convention Centre de Calgary, mais son administration sera logée à l'hôtel Four Seasons. Les membres sont priés de s'y inscrire tôt pour s'assurer un meilleur choix d'hébergement.

Les gouverneurs et les membres corporatifs sont invités à faire leurs observations sur les modifications qui ont été suggérées pour l'organisation du congrès qui aura lieu en 1983 à Vancouver.

Le comité spécial Administrations des licences/ADC

Un comité spécial a été créé sous la présidence du Dr W.R. Thompson pour examiner la mise sur pied de mécanismes qui permettront d'échanger des idées sur des points d'intérêt commun avec les administrations chargées de l'émission des licences. Le comité comprend le brigadier général W.R. Thompson, et les Drs P.R. Crawford, J.G. Thompson, Jean-Guy Landry, B.P. Martinello et K.F. Pownall. Il se réunira de nouveau avant le mois de juin et s'adjoindra alors les représentants des administrations émettrices de licences. Un rapport sera ensuite préparé à l'intention du Bureau des gouverneurs.

Les adhésions

L'examen des statistiques sur les adhésions révèle que l'Ontario et le Québec comptent environ 300 dentistes de moins que l'année dernière parmi leurs membres.

Une campagne de sollicitation commencera à la mi-avril pour joindre tous les dentistes des provinces qui n'appartiennent pas à l'Association et un rapport sera présenté au conseil exécutif.

Les relations avec le gouvernement

Le président a fait état de plusieurs réunions qu'il a eues avec la Direction des services médicaux de Santé et Bien-être Canada. Il a signalé qu'on avait gelé le placement des thérapeutes dentaires et que d'autres rencontres auront lieu, mais après une réunion des agents des services dentaires régionaux, qui devaient, le 16 avril, examiner la situation de l'école des thérapeutes dentaires, actuellement située à Fort Smith.

Plusieurs rencontres ont eu lieu avec Santé et Bien-être Canada au sujet de la fluoration, de la répartition de la main-d'oeuvre, de l'avancement de la santé et de la dotation d'un poste de conseiller supérieur en dentisterie. Ce poste a été classifié DE-4, à un niveau de direction. Il fut l'objet d'une annonce dans le numéro de mai et juin du Journal de l'ADC. L'Association a été invitée à faire partie du comité de sélection.

Autres formes de prestation des services

L'Exécutif a demandé au Comité de rédaction d'examiner la possibilité de préparer des articles d'information sur les diverses formes de prestation des services dentaires.

Il a approuvé la mise sur pied d'un sous-comité du Comité sur les soins de santé, qui aura pour mandat d'étudier, d'évaluer et de rendre disponible l'information sur la planification, l'administration, la prestation et le financement des diverses formes de service.

Conférence sur les questions prioritaires

Le Conseil exécutif a passé en revue le rapport qu'avaient préparé ceux qui ont participé à la Conférence sur les questions prioritaires, tenue les 4 et 5 mars 1981 à Montebello. Il a adopté deux recommandations issues de la conférence: l'une porte sur la main-d'oeuvre et l'autre, sur une enquête auprès des membres.

En fait, le Comité de gestion a eu récemment plusieurs rencontres avec divers spécialistes de la main-d'oeuvre et, suite à la décision de la Conférence sur les questions prioritaires, il a été décidé que l'ADC retienne les services d'un consultant qui sera chargé de mettre au point un plan d'évaluation de la main-d'oeuvre dentaire.

La mise en oeuvre de la deuxième recommandation, concernant une enquête auprès des membres, a été confiée au Comité des membres. (Voir le Q.1. de membre dans cet exemplaire.)

Les autres recommandations de la conférence de Montebello ont été confiées à l'examen des conseils concernés et il faut noter que certaines d'entre elles ont déjà été mises à exécution.

Les questions fiscales

Un mémoire devait être envoyé à l'honorable Pierre Bussières, ministre d'Etat aux Finances, concernant les tarifs douaniers touchant le matériel dentaire. On a aussi pris contact avec le caucus du Parti conservateur et l'honorable Marcel Lambert a proposé des modifications à la loi C-50.

L'ADC a aussi participé à une réunion convoquée par Santé et Bien-être pour examiner la possibilité de faire une étude sur la portée des mesures tarifaires sur tout le matériel dentaire et sur l'absorption par la population en général des frais supplémentaires qu'elles engendrent. L'ADC continuera à se gagner l'appui du ministre en la matière.

Le Comité des questions fiscales a rencontré récemment les représentants du Barreau canadien, de l'Association médicale du Canada et de l'Institut des comptables agréés du Canada pour étudier la possibilité de créer un comité interprofessionnel qui serait chargé d'examiner les pensions de retraite de ceux qui travaillent pour leur propre compte. Le

comité se penchera sur leur droit de se créer des caisses de retraite exemptes de l'impôt, ainsi que sur les mécanismes actuels de constitution en société professionnelle.

**Le directeur général
Hubert Drouin**

Séminaire sur la gestion

Selon le Dr Arlen Lackey, il est temps que les dentistes cessent de se considérer mutuellement comme des concurrents.

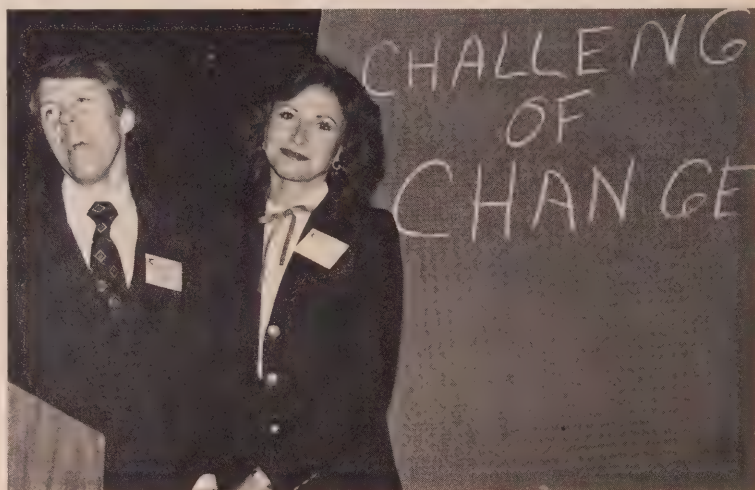
A son avis, les membres de la profession dentaire devraient plutôt travailler ensemble pour faire valoir la dentisterie comme un service de santé responsable, attentif aux besoins, rémunérateur et capable de s'adapter au changement et d'en relever les défis.

Plusieurs centaines de ses collègues avaient rempli le Grand salon de l'hôtel Reine Elisabeth pour entendre ses conseils, à l'occasion des Journées dentaires du Québec qui ont eu lieu en avril. Et il n'a pas manqué de leur suggérer des moyens d'y parvenir.

Dentiste californien, qui fait de la pratique privée depuis 1965, le Dr Lackey donne depuis un an des conférences dans toute l'Amérique du Nord. Dans un séminaire, qui dure six heures, il ne fait pas que donner aux dentistes des moyens d'offrir à leurs patients les soins les meilleurs et les plus rassurants; il leur indique aussi comment garder en même temps l'avance sur l'inflation.

"Pour relever les défis de l'évolution, dit-il, vous devez joindre la confiance à la créativité, la production à la prudence et les talents du gestionnaire au jugement professionnel.

"La profession dentaire a assumé ses responsabilités en freinant la hausse de ses honoraires; mais ceux-ci traînent derrière l'inflation et notre revenu ne se maintient pas."



Le Dr Arlen Lackey et son assistant Tony Vaira ont expliqué à des centaines de dentistes, au mois d'avril dernier à Montréal, leurs idées sur "le changement et ses défis". Tous deux sont Californiens et estiment que les dentistes doivent trouver des débouchés pour leurs services afin d'une part, de ne pas se trouver en reste avec l'inflation et, d'autre part, offrir des soins de qualité.



Le Dr J.G. Landry, président de l'Ordre des dentistes du Québec lors des Journées dentaires du Québec.

Pour renverser la situation et rendre la pratique de la profession plus intéressante sur le plan financier, il vous faut promouvoir votre image, conseille-t-il. Les membres de la profession peuvent atténuer en bonne partie la crainte actuelle de se retrouver avec trop de dentistes et pas assez de patients.

“Les patients dentaires ne manquent vraiment pas, de dire le Dr Lackey. Seulement cinquante pour cent de la population va voir le dentiste, quand elle a mal aux dents.”

Et le conférencier d'expliquer que, pour les dentistes, le marché des patients est en voie d'expansion, la classe moyenne devenant plus aisée et celle des cols bleus se faisant moins nombreuse.

“Une classe entière peut se payer des soins dentaires, et pourtant la moitié ne va pas chez le dentiste, dit-

il. Ce que vous devez faire, c'est d'organiser la prestation de vos services pour répondre à leurs besoins.

“Il vous faut vendre vos services. Et si vous avez besoin de plus de patients, vous devez vendre votre image.”

Selon le Dr Lackey, pour vendre son image, le dentiste doit faire plus qu'ajouter de nouveaux meubles dans son cabinet ou mettre à jour ses brochures.

Il doit embaucher du personnel qui soit le meilleur possible et lui confier des responsabilités. Il doit faire un effort supplémentaire pour convaincre ses patients qu'il leur porte vraiment toute son attention, qu'il comprend leurs craintes et leurs problèmes financiers et qu'il s'intéresse à leur santé. Quant au dentiste lui-même, il doit savoir planifier son occupation du temps, se fixer des objectifs financiers et établir son ordre de priorité.

“Tracez-vous une ligne de conduite et passez 80 pour cent de votre temps à la suivre, conseille le Dr Lackey. Quant à l'autre 20 pour cent du temps, pendant lequel vous pouvez vous écarter de la ligne tracée, n'en passez pas davantage à vous en inquiéter.”

Le conférencier souligne que le conditionnement physique et l'exercice sont importants non seulement pour le dentiste qui doit combattre le stress mais aussi pour ses patients. Dans son propre cabinet, il garde des jus de fruits dans un petit réfrigérateur, pour son personnel et ses patients. Il est défendu d'y fumer et il fait prendre la pression artérielle de ses nouveaux patients.

“Ayez un milieu plus humain, dit-il. Invitez vos patients, et non d'autres professionnels, à l'ouverture de votre nouveau cabinet. Ils constituent le meilleur système de recommandation que vous pouvez avoir.”

Parmi les autres conseils qu'il a offerts à son auditoire, le Dr Lackey a

suggéré la mise en pratique de ce qu'il a appelé des “communications efficaces”: adresser des lettres de remerciement aux nouveaux patients, inscrire le nom des patients sur les brochures et leur donner davantage accès à leur diagramme.

“C'est alors que les gens commenceront à prendre conscience que vous leur portez vraiment attention”, dit-il.

Par ailleurs, il a souligné la nécessité de bien contrôler financièrement l'exercice de la profession pour en présenter une image réussie.

“Certains croient que le contrôle financier consiste à se lancer dans la course au trésor, dit-il. Il n'en est rien... Il s'agit simplement d'avoir de la méthode pour réussir face au crédit, aux assurances et au recouvrement des honoraires. Sans méthode, il y a fort à parier que vous n'avez plus la maîtrise de votre pratique.”

Pour le Dr Lackey, la meilleure façon de faire c'est de convenir des modalités financières par écrit avant d'entreprendre le traitement et le moins qu'on puisse faire, c'est de toujours en faire l'estimation d'abord. Le dentiste doit aussi montrer une certaine souplesse en ce qui a trait aux modalités de paiement, afin que le patient se sente à l'aise pour faire état de ses soucis financiers.

“Cela tient de la faiblesse humaine que la plupart des gens aient tendance à oublier quelque peu les questions d'argent, dit-il. C'est pourquoi vous devez contrôler le crédit.”

Le Dr Lackey a aussi suggéré quelques moyens de ne pas se laisser déborder par la paperasse des formulaires d'assurance. Il précise qu'en Californie, l'association dentaire a négocié avec les compagnies d'assurance l'établissement d'un seul formulaire de réclamation. Il a aussi conseillé aux dentistes de mettre à la portée de leur personnel un manuel

indiquant comment remplir les réclamations, au cas où la personne chargée ordinairement de la faire s'absenterait.

S'il sait récompenser son personnel et éveiller son intérêt, le dentiste pourra employer des gens qui seront vites en besogne, sans travailler plus fort. Le conférencier suggère donc à son auditoire de confier des responsabilités et d'établir des programmes d'encouragement dont tous profiteront financièrement.

Le Dr Lackey a souligné que le monde s'éloignait maintenant de la société industrielle pour se transformer en une société d'information. Selon lui, c'est en utilisant les techniques du marketing, de la communication et du contrôle financier que les dentistes relèveront les défis engendrés par cette évolution, tout en offrant des soins de qualité.

Pourquoi augmenter le degré de fluorure?

Quand faut-il porter à 1.2 parties par million (mg/L) le degré optimal de concentration de fluor dans les approvisionnements d'eau pour prévenir la carie dentaire?

En principe, la consommation moyenne d'eau potable par année varie selon le climat. Dans les 48 Etats américains, situés au sud du Canada, la concentration optimale recommandée varie entre 0.7 mg/L dans les régions chaudes et sèches de l'Arizona et 1.2 mg/L dans celles beaucoup plus fraîches du Montana.

Au pays, plusieurs études ont permis d'établir la meilleure concentration de fluor. Voici ce qu'en disent les plus récentes.

Le Guide canadien sur la qualité de l'eau potable, édité en 1978 (1), admet une concentration de 1.0 mg/L, sauf dans les régions où la moyenne de température annuelle ne dépasse pas le maximum de 10 degrés C et où il recommande une concentration de 1.2 mg/L.

Les critères servant à établir les Normes de fluoration de l'eau potable au Canada, éditées en 1979 (2), recommandent 1.2 mg/L comme concentration optimale de fluor.

La concentration optimale, qui doit comprendre le fluor à l'état naturel, s'obtient de diverses façons: (a) en ajoutant du fluor dans l'eau qui n'en a pas assez; (b) en mélangeant les eaux de plusieurs sources; (c) en dé-fluorant partiellement l'eau (au Canada, on n'a pratiquement pas recours à cette méthode, parce qu'il extrêmement rare d'y trouver à l'état naturel une concentration de plus de 2.4 mg/L, c'est-à-dire le double de la concentration optimale, qui donne lieu à un excès de fluor (3).

- (1) Préparé par le Groupe de travail fédéral-provincial sur l'eau potable, pour le compte du Comité consultatif fédéral-provincial de l'hygiène du milieu et du travail, et publié avec la permission du ministre de la Santé et du Bien-être.
- (2) Rapport final, publié par l'Association canadienne de la santé publique.
- (3) "Accepted Dental Therapeutics, 38^e édition, p. 317; publié par l'American Dental Association.

Le ministère de la Santé de l'Ontario a émis de nouvelles directives recommandant que le taux de fluor, contenu dans les eaux potables de la région métropolitaine de Toronto, soit accru de 0,2 p.p.m. pour atteindre 1,2 p.p.m. Cependant, il faudra attendre que tous les bureaux de la Santé de la région de Toronto aient approuvé cette mesure avant de l'appliquer.

La "capitation"

La profession dentaire du Canada a un grand défi à relever: d'une part, elle risque de compter trop de dentistes et pas assez de patients; d'autre part, la dévaluation constante du dollar exerce de plus en plus de pression sur son mode traditionnel de rémunération à l'acte.

Aux Etats-Unis, ces problèmes ont déjà incité la profession à offrir ses services de beaucoup d'autres façons.

La rémunération par tête ("capitation"), les circuits fermés et la pratique par contrat ne sont que quelques variations des mille et une nouvelles façons de faire.

En outre, les services dentaires y sont offerts dans les grands magasins, à côté des articles ménagers et de la lingerie. Les grands journaux américains présentent des pages entières d'annonces dentaires qui offrent des coupons de rabais. Le franchisage et l'établissement de réseaux deviennent autant de moyens efficaces d'offrir les soins dentaires à toute une région.

Peu de dentistes canadiens semblent savoir ce qui se passe au-delà de la frontière. Tel le patient qui applique de l'eugénol sur une dent infectée, la profession dentaire du pays semble hésiter quelque peu à en connaître davantage sur les nouvelles formes de prestation des services.

Néanmoins, ces nouvelles façons de faire ne disparaîtront pas. L'escalade des coûts rend les services dentaires inaccessibles à un grand nombre de personnes. La concurrence se fait plus serrée chez les dentistes. Le dentiste lui-même trouve que l'inflation rogne son revenu.

L'exercice de la profession changera. On est cependant loin de s'entendre sur la nature des changements et sur la façon de les réaliser.

Certes, il faut maintenir, au pays, des soins dentaires de qualité supérieure et continuer d'en assurer l'accessibilité à toutes les couches de la société.

Les tenants de la "capitation" soutiennent que ce régime leur permet d'offrir des services dentaires de qualité supérieure et à bon marché à une plus grande variété de populations que la rémunération à l'acte. Il faut se demander cependant s'il y a quelque avantage réel à incorporer les éléments d'un bon service de soins dentaires dans un contrat qui a force de loi.

La rémunération par tête n'offre pas une nouvelle façon d'offrir les services; c'est plutôt une nouvelle méthode de paiement des soins dentaires.

VEND SON TEMPS

Dans ce régime, le dentiste reçoit à l'avance sa rémunération de la part d'un employeur ou d'un administrateur qui gère le programme; en retour, il accepte de prodiguer des soins précis à un certain nombre de patients. La quantité des soins dépend des besoins réels des patients et ceux-ci n'ont d'autre choix que de s'adresser au dentiste qui participe au régime.

En réalité, le dentiste vend son temps, et non ses services. Si, pendant la durée du contrat, un patient ne se présente jamais à son cabinet pour se faire traiter, il reçoit quand même sa rémunération pour ce patient. Puisque les études démontrent que moins de 50 pour cent de la population visite régulièrement le dentiste, les tenants de la rémunération par tête y voient une pratique très lucrative.

Ils y voient aussi d'autres avantages pour le dentiste. Comme il est payé à

l'avance, il peut compter sur les prestations de l'administrateur pour s'assurer un certain revenu mensuel. Il n'a plus à remplir une montagne de paperasse, comme pour les assurances. Et, comme il n'a pas à se faire autoriser préalablement, les tenants de la "capitation" soutiennent que le dentiste contrôle davantage le traitement qu'il administre.

Par ailleurs, les dentistes qui ont su tirer avantageusement parti du régime de rémunération par tête ne s'arrêtent pas là. Ils y voient aussi des avantages pour le patient et décrivent le régime comme étant "la dentisterie au service du consommateur". Les services étant payés d'avance, les tenants de la "capitation" soutiennent avoir supprimé les conflits d'intérêts: comme l'augmentation de son revenu n'est plus directement proportionnelle à la quantité des soins qu'il administre, le dentiste n'est plus tenté de surajouter des traitements. En conséquence, ils promettent une pratique dentaire qui porte toute son attention aux besoins et aux désirs du patient. Et comme les deux parties ont avantage à recourir le moins possible aux soins restaurateurs, les tenants du régime affirment qu'on insiste surtout sur les soins préventifs.

Le régime offre plusieurs avantages à l'employeur, ou souvent au syndicat, qui songe à y recourir. Le principal avantage, c'est que l'entreprise ou l'association sait à l'avance combien exactement lui coûtera le programme de soins dentaires. Elle ne se ménage aucune surprise financière désagréable. Politiquement, le régime offre beaucoup d'attraits aux gouvernements, parce qu'il leur facilite grandement l'établissement du budget et la prévision des dépenses à venir.

Néanmoins, la réussite du régime de rémunération par tête repose entièrement sur un seul facteur, inconnu et troublant: l'utilisation. Il faut penser

que c'est le dentiste qui assume le risque financier. Si trop de gens prennent avantage des services pour lesquels il a déjà été rémunéré, le dentiste connaît alors de graves problèmes financiers. Et cela, les tenants du régime ne le contestent pas.

Mais, pour eux, c'est ici qu'interviennent le marketing et la gestion. Le dentiste qui est sage, disent-ils, choisira soigneusement le groupe de patients envers lequel il s'engagera.

BIEN CHOISIR SES GROUPES DE PATIENTS

Gare aux groupes qui sont bien informés et qui connaissent les avantages de bons soins dentaires! Attention aux organisations qui comptent dans leurs rangs une forte majorité de jeunes femmes, tels les syndicats d'employés de bureau ou de commerce! Ces gens-là iront vous voir et vous demanderont des soins.

Les tenants de la "capitation" conseillent aussi aux dentistes de ne pas avoir un horaire trop commode pour les patients. Le dentiste chanceux, qui participe au régime, aura un certain nombre de patients qui vivent dans un autre secteur et qui trouveront difficile de se rendre à son cabinet.

Beaucoup se demandent si les soins dentaires dispensés en vertu du régime de rémunération par tête se comparent à ceux dispensés sous le régime de rémunération à l'acte.

Les tenants de la "capitation" répondent affirmativement. Ils soutiennent qu'avec un système de co-paiement, où le patient doit verser une surcharge pour un traitement plus élaboré, le dentiste peut se faire autant d'argent qu'en vertu du régime de rémunération à l'acte. Ils ajoutent que le dentiste n'a pas de raison alors d'utiliser du matériel de moins bonne qualité ou de lésiner sur le meilleur traitement à faire.

Grâce à ce même système de co-paiement, les tenants de la rémunération par tête soulignent que le dentiste peut contrôler l'utilisation de ses services, encore une fois grâce à une bonne gestion. Il ne faudrait pas être surpris que moins de gens se prévalent du régime, s'ils ont à payer eux-mêmes directement une partie des frais des soins dentaires.

EQUILIBRE PRUDENT

Les tenants du nouveau régime conseillent aussi aux dentistes de garder un équilibre prudent en conservant environ la moitié de leur pratique privée, rémunérée à l'acte. Non seulement elle lui servira de coussin si les patients du régime réclament plus de soins qu'il n'avait prévu au départ, mais aussi elle lui donnera une certaine souplesse pour traiter d'autres patients, que ceux du régime pourraient lui référer.

Ils soutiennent que ceux auxquels le programme réussit retirent certains avantages que le régime de rémunération à l'acte ne peut simplement pas leur offrir. Par exemple, selon eux, s'il participe à un vaste programme qui compte plusieurs autres collègues, le dentiste peut alors leur référer ses patients et prendre des vacances sans s'inquiéter de voir baisser son revenu. Il a déjà été payé pour avoir accepté de dispenser des soins aux patients pendant la durée du contrat.

Et il y a aussi les avantages saisonniers, dit-on. Par mauvais temps, quand le patient ne se présente pas à son rendez-vous, le dentiste perd du revenu. Mais, s'il participe au régime de "capitation", il est payé quand même et il peut même prendre un autre patient de pratique privée sur le temps du rendez-vous payé à l'avance simplement pour occuper le fauteuil dentaire.

Les tenants de la "capitation" reconnaissent cependant qu'il n'est pas facile pour le dentiste de se lancer pour la première fois dans le régime de rémunération par tête. Tout comme les compagnies d'assurance, les syndicats et les compagnies aiment faire affaire avec quelqu'un dont ils connaissent les états de service. Mais, disent-ils, une fois le premier contrat obtenu, les autres suivent. Les sociétés intéressées au régime connaîtront vite les programmes qui fonctionnent bien.

En ce qui a trait aux circuits fermés et au fait que le patient ne puisse plus choisir librement son dentiste, les tenants de la "capitation" semblent penser que ce n'est pas un problème grave. C'est réciproque, disent-ils. Le dentiste perd aussi le droit de choisir ses patients et même, s'il survient un conflit de personnalité avec un patient, il est toujours obligé, en vertu de son contrat, de lui dispenser ses soins.

Beaucoup de dentistes ont le sentiment d'être comblés par tant d'avantages. Pourtant, dans certaines régions des Etats-Unis, où certains dentistes ont craint de perdre leur pratique à cause d'une concurrence acharnée, la rémunération par tête leur apparaît comme le seul moyen d'obtenir de nouveaux patients et de garder les "aventuriers" loin de leur territoire.

C'est pourtant cette même peur qu'exploient les tenants de la "capitation". Ils disent aux dentistes que s'ils ne s'engagent pas dans un programme de ce genre, d'autres le feront et offriront leurs services aux syndicats et aux sociétés qui en veulent.

Néanmoins, le fait même qu'un programme de "capitation" doit être sous-utilisé pour réussir soulève le doute sur son fondement et sa nécessité. En d'autres termes, la rémunération par tête permet-elle d'offrir les soins dentaires à plus de gens? N'ob-

tiendrait-on pas le même résultat par une pratique traditionnelle bien gérée, où il y a une relation étroite entre le patient et le dentiste?

Le régime comporte définitivement des dangers, non seulement à cause du risque financier que doit prendre le dentiste, mais aussi à cause des abus auxquels il peut donner lieu, notamment en ce qui a trait à la qualité des soins dentaires. Les problèmes financiers peuvent entraîner si facilement des abus.

Quoi qu'en disent les tenants de la "capitation", il y a bien des cas où la rémunération par tête n'a pas permis de dispenser le genre de soins qui avaient été promis aux patients. Même si le programme réussit, il est difficile d'apprécier objectivement la qualité des soins donnés.

DIFFICILEMENT JUGER

Quant aux adversaires de la "capitation", ils soulignent que le patient est incapable de porter des jugements cliniques. Si une grande obturation faite au moyen d'un amalgame d'argent, peut satisfaire entièrement le patient, alors qu'il aurait fallu poser une couronne, beaucoup de dentistes reconnaîtront que ce n'est pas là le meilleur des traitements. S'il semble réussir aux promoteurs, le programme peut, en fait, ne pas être suffisant sur le plan clinique.

L'attrait que le programme exerce sur le patient au début, parce qu'il semble coûter moins cher, peut disparaître. Ses adversaires notent que le co-paiement que le patient doit verser pour obtenir un traitement plus élaboré est, en certains cas, presque aussi élevé que celui qu'il aurait versé en vertu de la rémunération à l'acte.

UNE ALTERNATIVE AUX PATIENTS

Certains programmes de "capitation" offrent une alternative aux patients qui peuvent ou recourir aux services des dentistes participants ou se faire rembourser, sous forme d'indemnité, les frais encourus en vertu d'un programme de rémunération à l'acte. Si la prime est la même, les avantages peuvent être très différents.

Par exemple, le Service dentaire de Californie, le Delta Dental Plan of California, a fait en 1977, pour le compte d'une importante société nationale américaine, une étude confidentielle qui a comparé les avantages reçus en 1976 en vertu du programme à double volet qu'offrait la société en Californie. Les employés avaient le choix entre le plan Delta et l'obtention de soins en circuit fermé rémunérés par tête.

L'étude a démontré qu'en vertu du programme de "capitation", il s'est fait plus de radiographies, mais moins de restaurations et d'extractions. Dans l'ensemble, le nombre de traitements de routine était à peu près le même dans les deux cas, mais la comparaison des traitements élaborés a fait voir un écart important. En vertu du programme de "capitation", il s'était fait 62 pour cent moins de traitements élaborés, un résultat net de 21 traitements de moins.

Un des écarts particuliers les plus remarquables fait voir qu'en vertu du programme de "capitation", il s'est fait 69 pour cent moins de couronnes. Le plan ne signale aucune extraction chirurgicale, ni aucune chirurgie buccale complexe ou paradontale. Il rapporte cependant l'enlèvement de 158 pour cent plus de partiels dentaires mais ne mentionne aucune insertion de bridge.

Les adversaires du régime soutiennent que les patients ont davantage de

Le programme de "capitation" en termes de finances, est basé sur le taux des primes. Il doit être négocié afin de créer un revenu convenable pour la pratique dentaire.

Vu que sous un système de capitation, les unités de temps ont la préférence sur les unités de service, toutes les données informatiques sont basées sur les unités de temps.

Nous reproduisons ici la formule de base proposée par le Dr Max Schoen dans sa publication intitulée "Méthodologie des paiements par capitation pour les pratiques dentaires de groupe et leurs conséquences sur les soins apportés aux patients", janvier-février 1974.

$$R_1 = U [T_{AD} \times C_D + T_H \times C_H] + S (T_{AD} \times C_D + T_H \times C_H) D (T_{DD} \times C_D + T_H \times C_H)$$

$$R_2 = F \times U \times M (T_M \times C_D + T_H \times C_H) + L (R_1)$$

$$R_n = \text{Même que } R_2$$

où:

R_1 = taux de la prime par famille pour

R_n = taux de la prime par famille pour n'importe quelle année subséquente

T_{AD} = nombre d'heures par dentiste, requises par adulte, la première année

U = taux moyen annuel d'utilisation

T_H = nombre d'heures par hygiéniste, par personne, la première année

C_D = coût de l'heure par dentiste

S = taux moyen par épouse, par employé

C_H = coût de l'heure par hygiéniste

T_{DD} = nombre d'heures par dentiste, par enfant, la première année

D = nombre moyen de dépendants

F = nombre moyen d'enfants par famille

R_2 = taux de la prime par famille pour la deuxième année

T_M = nombre d'heures par dentiste, par personne, l'année subséquente

M = pourcentage de toutes les personnes couvertes, l'année subséquente

I = pourcentage de toutes les personnes couvertes pour la première fois, dans une année

Toutefois, cette formule ne tient pas compte des frais de laboratoire, de l'inflation et des profits. Le Dr Schoen suggère un co-paiement ou une surcharge pour les traitements requérant des frais de laboratoire.

En calculant les taux, il faut compter sur la croissance courante et anticipée de l'inflation et multiplier les taux des deuxième et troisième année par le pourcentage de l'inflation et l'additionner à la prime de base. Dans les cas de profits, on doit établir non seulement une base de profit, mais aussi réserver un montant déterminé pour subvenir à des dépenses imprévues comme les consultations extérieures et l'acquisition d'équipements nouveaux et autres objets de la pratique dentaire. On doit additionner les profits des trois années.

Le pourcentage ainsi déterminé pour chacune des trois années, est ensuite additionné et divisé par trois, ce qui établit un niveau de prime pour la période du contrat s'étendant sur trois ans.

problèmes. S'il leur est difficile de se prévaloir du programme, il se découvrira d'aller voir le dentiste. Tout comme celui-ci qui n'a pas le choix de refuser un patient, en cas de mésestimation, de plainte ou de mesure disciplinaire, le patient est obligé de recourir au même système de prestation des services pour se prévaloir des avantages auxquels il a droit.

CONFLITS D'INTERÊTS

Les adversaires affirment également que le risque de conflit d'intérêts demeure. S'il y a une erreur de calcul dans le taux d'utilisation ou l'honoraire de "capitation", le dentiste devra choisir entre assumer lui-même les frais supplémentaires, réduire ses services ou utiliser du matériel moins dispendieux. Si le co-paiement convenu à l'avance peut ne pas combler l'écart, le dentiste se trouve dans une situation où il doit assurer ses pertes.

Toujours selon les adversaires, la "capitation" convient mieux à la pratique collective et le dentiste qui travaille seul peut trouver beaucoup plus difficile de faire partie d'un réseau. Le dentiste participant est assujéti à la vérification et peut recevoir la visite d'un comité d'appréciation professionnelle qui examinera la qualité de sa pratique; ce qui peut être avantageux pour les uns et fâcheux pour les autres.

On ne s'entend pas non plus à savoir si le régime de "capitation" permet de vraiment réduire la paperasse. Il est vrai qu'on élimine les formulaires d'assurance dentaire mais il fait beaucoup de paperasse au départ pour établir un honoraire acceptable aux deux parties. En outre, beaucoup de réseaux rémunérés par tête doivent fournir des données pour en évaluer le rendement.

Ceux qui sont en faveur du régime conseillent aux dentistes d'établir un

ordre de priorité dans les soins qu'ils doivent dispenser aux patients de façon à ne pas avoir à faire une masse de traitements dispendieux dans la même année. Finalement, le but est naturellement de veiller à ce que les patients fassent entretenir leurs dents pour que le dentiste puisse mériter son honoraire mensuel sans trop travailler.

En principe, cela paraît faisable, mais ses adversaires soutiennent que le régime comporte des problèmes qui lui sont propres. Ils soulignent qu'au début du programme, la pratique perdra ordinairement de l'argent et que le renouvellement du contrat peut entraîner une réduction des honoraires pour le dentiste qui espère combler ses pertes par un deuxième contrat.

Une trop forte proportion de rémunération par tête peut rendre toute une pratique vulnérable, face à une réduction des honoraires, et le dentiste peut même se voir forcé d'augmenter ses services par crainte de perdre le contrat. Si le contrat n'est pas renouvelé, le dentiste peut perdre tout le groupe de patients de même que les gains qu'il prévoyait tirer des soins d'entretien.

Le contrat a ordinairement une durée d'un ou deux ans. Les adversaires soutiennent que, malheureusement, on fait de plus en plus de contrats d'un an et qu'on court ainsi le risque de voir l'espacement des visites retarder certains traitements nécessaires après l'expiration du contrat. En conséquence, le dentiste ne dispense pas tous les soins requis ou traite son patient de façon inadéquate, ce qui soulève encore la question du conflit d'intérêts financiers. Dans un régime de "capitation", le patient peut ne pas savoir que le dentiste ne lui dispense pas tous les soins requis pour restreindre ses dépenses. Dans un régime de rémunération à l'acte, il peut contrôler dans une certaine mesure le

dentiste qui prodigue trop de soins pour les mêmes raisons ou pour arrondir son revenu: le patient peut toujours refuser les soins s'il les trouve trop chers.

Le dentiste participant doit aussi encourir d'autres frais, y compris le versement d'une commission de 15 à 20 pour cent à l'administrateur, qui ne court aucun risque financier, et d'honoraires aux conseillers dont il a besoin pour administrer une telle pratique.

CERTAINS RISQUES

Les adversaires ajoutent que le régime comporte des frais cachés. L'emploi de beaucoup d'auxiliaires demande de consacrer plus de temps à la formation et à l'administration du personnel. Le dentiste peut courir certains risques dans les cas d'urgence ou de traitement spécialisé, s'il est lui-même absent ou si le patient est en voyage.

La réussite du régime de "capitation" dépend du nombre de patients concernés qui ont effectivement recours aux services du dentiste, et de l'honoraire qui celui-ci et ses conseillers auront su négocier.

Néanmoins, la relation patient-dentiste et la qualité des services rendus dépendent toujours de l'intégrité de chaque dentiste. Aucun régime ni aucun contrat ne peut réglementer la morale.

Il n'y a pas de doute, il faut définitivement trouver d'autres moyens d'assurer la prestation plus économique des soins dentaires. Mais la capitation répond-elle à ce besoin? Un régime qui repose sur la sous-utilisation des services peut-il répondre aux besoins de la population? La profession dentaire peut-elle accepter un régime qui permettra de dispenser des

soins de moins bonne qualité à, peut-être, moins de gens?

Avec la rémunération par tête, le dentiste court un risque plus grand que le risque financier. Il met en jeu sa réputation, et probablement plus que dans le régime traditionnel de rémunération à l'acte. En négociant ses honoraires avec l'administrateur de programme ou avec la compagnie directement, il s'attend à ce que la majorité des bénéficiaires n'aura pas recours à ses services.

Avis de la Réunion

La Réunion annuelle du Bureau des Gouverneurs de l'Association dentaire canadienne aura lieu les 28-29 août 1981, à l'Hôtel Four Seasons de Calgary, Alberta et débutera à 9 a.m. le 28 août.

Le CRDC veut bannir la capitation

Le Collège Royal des Chirurgiens Dentistes de l'Ontario est d'avis que la "capitation", pratique dentaire à participation restreinte et rémunérée par tête en vertu d'un contrat, est illégale.

Tôt en mai, des représentants du Collège se sont réunis avec des autorités officielles du Ministère de la Santé en vue de changer les règlements de l'Acte de la Discipline de la Santé.

Le Président du Collège, le Dr C. Doughty a fait part au Journal que présentement l'Acte reste "muet" sur l'issue de la question. Il nous a confirmé que le collège a de sérieuses réticences envers ce système privé de médecine dentaire et veut virtuellement son interdiction.

Une des raisons invoquées est que la capitation en dentisterie ne donne pas au patient l'entière liberté de choisir son propre dentiste. Il est limité aux dentistes participant au programme.

Le Dr Doughty nous dit en plus, que le collège est concerné "sur un aspect plus général de la question, c'est à dire sur les contingences financières exercées sur le dentiste" dans un système de capitation.

"Le dentiste devient réellement son propre assureur et on se demande, si c'est une bonne chose." Si le dentiste devait encourir des pertes financières, la nature étant ce qu'elle est, la qualité de son travail en souffrirait.

"Aux Etats-Unis, ils ont eu des problèmes identiques et on ne voudrait pas que la même chose arrive en Ontario".

Le Dr Doughty est d'avis que la tarification à l'acte, comme utilisée présentement, est plus sûre à long terme tant qu'à la qualité des soins.

Il nous a dit que certains ministres pensent que la capitation à participation restreinte peut empêcher les dentistes de surtraiter leurs patients, par contre le collège croit qu'on tel système encourage une action contraire.

Aucune décision finale n'a eu lieu à l'assemblée, mais le Dr Doughty nous a confirmé que le collège va continuer la discussion avec le ministère.

Le Président de l'Association dentaire de l'Ontario, le Dr Bradley Holmes a aussi fait part au Journal que son association supporte entièrement le Collège dans sa lutte contre la capitation.

La Conférence Grieve Memorial

Cette année, la conférence Grieve Memorial portera sur la nécessité pour l'orthodontiste et le praticien général de collaborer ensemble quand il s'agit de prodiguer des soins dentaires aux adolescents.

Le Dr C.R. Castaldi expliquera comment l'orthodontie peut créer un dilemme. À son avis, la façon d'administrer des soins dentaires aux adultes ne tient pas compte souvent des besoins des adolescents en matière de traitements de restauration spéciaux.

La conférence Grieve Memorial est un des principaux exposés qui sera présenté dans le cadre du Congrès annuel, du 30 août au 2 septembre prochains. Le Dr Castaldi prononcera cette conférence le 31 août, à 10h30.

Mise au point

Au sujet des microplaquettes dont il a été question dans le numéro de mars du Journal de l'ADC (p. 164), il convient de préciser que le Collège des ingénieurs de l'Université de la Saskatchewan n'a pas inventé, en collaboration avec la firme Dentify, un appareil de micro-gravure. Le Collège a tout simplement amélioré un modèle que M. George Sausele, de Lynnfield (Massachusetts), a créé pour le compte de la firme Dentify Canada. Récemment, le Collège améliorerait les idées originellement émises par le Dr Philip Samis, de Montréal.

Calgary 1981



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C'est la fin de semaine AVANT celle de la Fête du Travail. Alors terminez vos vacances d'été en prenant part au Congrès de l'ADC.

Venez visiter Calgary avec votre famille et profitez de l'hospitalité que vous réserve l'Ouest canadien. Nous vous promettons de faire de ce congrès l'un des plus mémorables de l'ADC.

Le Congrès de 1981 comprendra une soirée de plaisir, un rodéo avec dîner au boeuf barbecue et danse, un déjeuner style "chuck wagon," des activités pour les épouses, des excursions avant le congrès, d'excellents exposés scientifiques, des conférences cliniques et plus de 100 kiosques d'exposition.

CANADIAN DENTAL ASSOCIATION DENTAIRE CANADIENNE

August 30 to
September 2, 1981
Calgary, Alberta

National Convention

Canadian Dental Association

Congrès National

Association dentaire canadienne

DENTISTS
Registering Prior to
July 1, 1981 - Complimentary
White Stetson Cowboy Hat

REGISTRATION FORM

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Name _____

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Postal Code _____ Telephone Number _____

Receipt will be sent to the above. Please use separate forms if individual receipts are required. You may photocopy this form.

ROLE: Please indicate your principal role in CDA, CDHA, CDNAA, e.g., Member, President of Prosthodontic Section, Chairman of Council on Education, etc., after your name.

DENTISTS: Name (For name tag) _____ **ROLE** _____

CDA Member & Foreign Dentists \$175.00 before or \$200.00 after July 1, 1981

Canadian Non-CDA Member \$225. before or \$250. after July 1, 1981

\$ _____

INCLUDES:

Scientific Sessions, Exhibits, Sunday opening ceremonies, Monday Morning Chuck Wagon Breakfast, Installation Luncheon, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance.

DENTAL HYGIENISTS: Name (For name tag) _____ **ROLE** _____

CDHA Member \$95.00 before or \$115.00 after July 1, 1981

Non-CDHA Member \$190.00 before or \$200.00 after July 1, 1981 (does not apply to Non-Canadian Hygienists who belong to their own Association)

\$ _____

INCLUDES:

Scientific Sessions, Exhibits, two Luncheons and one Continental Breakfast, Bar-B-Que, Rodeo and Dance.

DENTAL TECHNICIANS: Name (For name tag) _____ **ROLE** _____

\$80.00

\$ _____

EXHIBITORS: Name (For name tag) _____

INCLUDES:

Scientific Sessions, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance, White Stetson Hat.

DENTAL NURSES AND ASSISTANTS: Name (For name tag) _____ **ROLE** _____

CDNAA Member \$90.00 before \$100.00 after July 1, 1981.

Non-Member \$100.00 before or \$110.00 after July 1, 1981.

\$ _____

INCLUDES:

Scientific Sessions, Exhibits, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast (optional for \$5.00) Monday Night Dinner Theatre, Tuesday Luncheon and evening Bar-B-Que, Rodeo and Dance.

SPOUSES: (Other than dentists and auxiliaries) Name (For name tag) _____

\$75.00 before or \$90.00 after July 1, 1981.

\$ _____

INCLUDES:

Scientific Sessions, Exhibits, Sunday opening Ceremonies, Monday Morning Chuckwagon Breakfast, Fashion Show Luncheon, Tuesday Luncheon and Sightseeing Tours and evening Bar-B-Que, Rodeo and Dancing.

Monday night President's Dinner and Dance \$45.00 per couple

\$ _____

Tuesday night Bar-B-Que, Rodeo and Dance, additional

admission tickets — \$30.00 each

\$ _____

CANCELLATION: Full registration fee refundable up to July 1, 1981.
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du 30 août au
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Calgary (Alberta)

National Convention

Canadian Dental Association

Congrès National

Association dentaire canadienne

DENTISTES

Inscrivez-vous avant le 1^{er} juillet
1981 et recevez gratis un chapeau
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(ÉCRIRE EN LETTRES MOULÉES OU À LA MACHINE)

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Un reçu global sera envoyé à l'adresse ci-dessus, à moins que vous ne préfériez des reçus individuels (en ce cas, reproduisez le présent formulaire et envoyez autant d'inscriptions qu'il le faut).

FONCTION: A la suite de votre nom, indiquez votre fonction principale au sein de l'ADC, de l'ACHD ou de l'ACGMAD (exemples: membre président de la Division de prosthodontie, président du Conseil de l'éducation, etc.).

DENTISTES: Nom (à inscrire sur votre insigne) _____ FONCTION: _____
Membres de l'ADC et dentistes étrangers: 175 \$ avant le 1^{er} juillet 1981, ou 200 \$ après.
Canadiens non membres: 225 \$ avant le 1^{er} juillet 1981, ou 250 \$ après. \$ _____

Privilèges: Séances de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et déjeuner "Installation" le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi.

HYGIÉNISTES DENTAIREs: Nom (à inscrire sur e'insigne) _____ FONCTION: _____
Membres de l'ACHD: 95 \$ avant le 1^{er} juillet 1981, ou 115 \$ après.
Non membres: 190 \$ avant le 1^{er} juillet 1981, ou 200 \$ après (ne concerne pas les hygiénistes étrangers qui ont leur propre association). \$ _____

Privilèges: Séances de travail, exposition, un petit déjeuner continental et deux déjeûners, un dîner-barbecue, rodéo et danse.

TECHNICIENS DENTAIREs: Nom (à inscrire sur e'insigne) _____ FONCTION: _____
80 \$ \$ _____

EXPOSANTS: Nom (à inscrire sur l'insigne) _____ \$ _____

Privilèges: Séances de travail; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi; chapeau de cowboy Stetson.

GARDE-MALADES ET ASSISTANTS(ES) DENTAIREs: Nom (à inscrire sur l'insigne) _____ FONCTION: _____
Membres de l'ACGMAD: 90 \$ avant le 1^{er} juillet 1981, ou 100 \$ après.
Non membres: 100 \$ avant le 1^{er} juillet 1981, ou 110 \$ après. \$ _____

Privilèges: Sessions de travail; exposition; cérémonie d'ouverture le dimanche; petit déjeuner "chuck wagon" et, moyennant 5 \$ supplémentaires, dîner-théâtre en soirée le lundi; déjeuner, dîner-barbecue, rodéo et danse le mardi.

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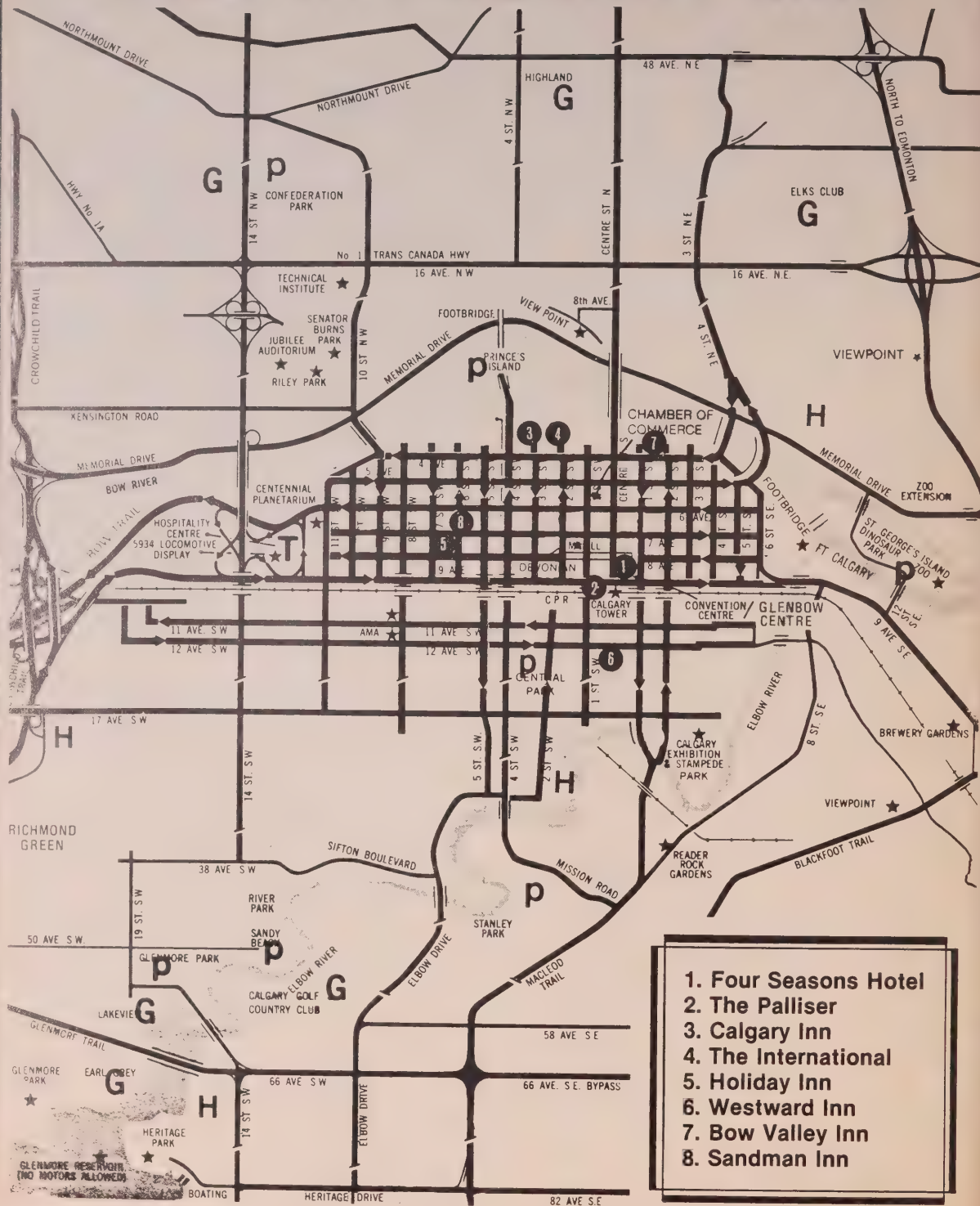
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Edentulous area modification of the continuous sling suture

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Saskatoon, Sask.

ABSTRACT

This paper describes a continuous sling suture modification which facilitates accurate placement with proper tension of palatal and facial periodontal surgical flaps when an edentulous space is involved. Differing palatal and facial mucosal mobility characteristics preclude using interrupted sutures in this circumstance; presence of an edentulous space makes accurate placement of the flaps difficult when the continuous sling suture is used. Thus, a modification of the technique was devised for this particular clinical situation.

The simple interrupted suture suffices when approximating mucoperiosteal flaps and closing surgical wounds associated with tooth removal. However, where periodontal pocket elimination procedures are performed, more sophisticated suturing techniques are needed to ensure that flap margins are positioned properly in relation to recontoured bone.

Suturing following periodontal surgery is particularly

critical in the maxillary arch where palatal and facial flaps have different mobility characteristics. Palatal flaps are part of a resilient, immobile palatal masticatory mucosa which must be sutured under some tension; facial flaps extend to involve flexible, displaceable alveolar mucosa and must be loosely sutured and suspended at the correct vertical level. Obviously, if one flap must be sutured loosely and the other tightly, use of the interrupted suture is precluded. The continuous sling suture was designed to deal with the problem. With this technique, facial and palatal (or lingual) flaps are sutured separately and are suspended or held tightly by a sutural sling around involved teeth. The technique is described in detail elsewhere.¹⁻³

If a tooth is removed at the time of periodontal surgery, or a pre-existing edentulous space is present, difficulties are encountered at the residual ridge area which prevent accurate flap margin placement when the usual continuous sling suture is used. A modification of the technique was devised to deal with this clinical situation and is illustrated in **Figure 1**.

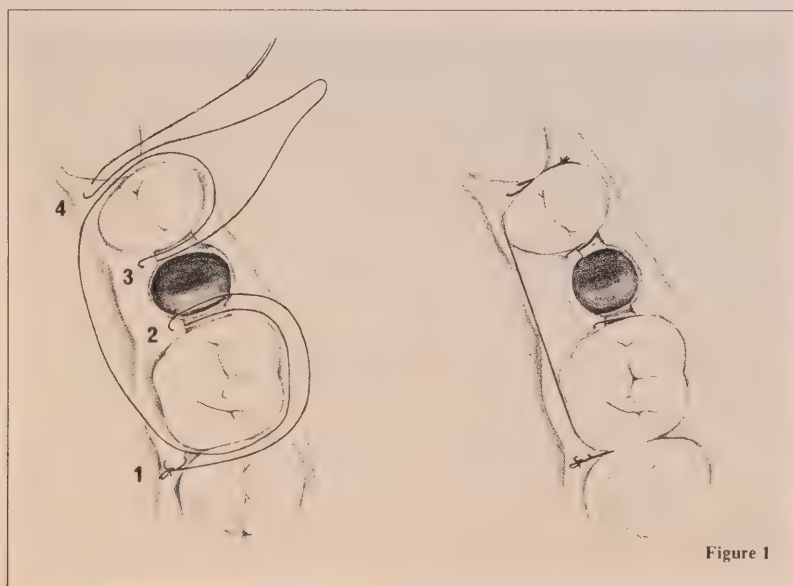


Figure 1

When the surgical site is ready for suturing, a loose looped tie is made at the distal terminus of the flap (1). The suture needle is passed under the interproximal contact, through the gingival embrasure, and around the buccal aspect of the tooth. The needle is again passed through the flap margin (2). If no edentulous space existed, the step of passing needle and suture around the next tooth would be repeated. However, in the modified technique, the suture is carried back around the first tooth, through the original gingival embrasure and pulled tight. This adapts flap margins 1 and 2 close to the tooth.

Next, the suture is carried along the palatal aspect of the flap beyond the edentulous region to the next interdental space, passed through the gingival embrasure, and carried around the tooth. The needle is passed through the flap margin (3) and pulled tight. Leaving a loose loop of suture to the buccal, another pass is made through the interdental gingival embrasure and the flap margin (4). The last step in the procedure is to once again pass the needle through the gingival embrasure, grasp the suture loop with the needle driver and loose suture with the free hand and tighten the entire continuous suture. This will ensure close adaptation to the tooth of the flap margins at 3 and

4. After proper tension and flap adaptation have been obtained, the suture loop and the free end are tied with a surgeon's knot. The procedure is repeated for the facial flap. At the postoperative visit, the suture is cut at points 1, 2, 3 and 4, and removed. The distal loose looped tie facilitates suture cutting and removal.

The modified continuous sling suture provides a means of easily obtaining accurate soft tissue placement following periodontal surgery involving a site which contains an edentulous space.

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The medical illustration services of Ms. A.J. MacGregor are gratefully acknowledged.

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COMMERCE PHARMACEUTICS, INC., VILLE ST. LAURENT, QUEBEC H4T, 1K2

An investigation of the effects of a tricalcium phosphate — zinc polyacrylate cement implant on bone

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ABSTRACT

This study tested the effect on bone formation by a zinc polyacrylate cement to which tricalcium phosphate had been added. The experimental site was the rabbit mandible. Histological investigations over a 32-week period revealed the implant to elicit a foreign body response. This study supports the concept that the additional presence of calcium ions within the implant does not increase osteoblastic activity; instead, a foreign body response is precipitated.

Treatment of periodontal disease has been directed towards the elimination of alveolar defects by various sophisticated surgical approaches. Many of these treatments involve implantation of bone grafts into the defects to restore lost alveolar bone.

Sound biological research in implantology has presented the clinician with a number of types of bone grafting materials, with some measure of predictable success. Currently, it is the consensus that fresh or cryopreserved

cancellous bone and red marrow when implanted in defects, provide the best results.¹

In many instances, these techniques represent intricate and time consuming surgical procedures often not readily accepted by patients. As a result, they have *not* become routine office procedures.

It would seem a reasonable alternative to utilize an implant material that is readily available. Such a material however, should be biologically acceptable, non toxic, non antigenic, easily manipulated and flexible.

Recently, there has been renewed interest in the use of alloplastic materials for treatment of alveolar defects. Bump and co-workers² implanted a flexible woven ceramic fabric into surgically created one-wall bony defects in dogs and monkeys. They found new bone formed over the ceramic material adjacent to existing alveolar bone. Histological observations over a period of 26 weeks showed the material to be non toxic, non antigenic and well tolerated.

Levin and his colleagues³ studied the effects of healing in artificially created periodontal defects in monkey jaw bone. The implant material was biodegradable tricalcium phosphate ceramic. Nine-week results showed partial de-

gradation of the implant with replacement by new osteoid tissue. The material was well tolerated. Similarly, other researchers have found that tricalcium phosphate ceramic shows promise as an alloplastic bone implant in artificially created periodontal defects.^{4,5}

Lawrence and his colleagues⁶ have investigated the potential of using zinc polyacrylate (carboxylate) cement as an alloplastic implant material. Using the rabbit tibia as a site for standardized surgical defects, it was found, over a 16 week period, that implants of polyacrylate cement were well tolerated. There was no evidence to indicate induction of bone by the cement.

The present experiment was designed to study the effect, if any, of bone formation by the addition of calcium ions to the basic zinc polyacrylate cement. To this end, a new cement mixture was developed which combined with tricalcium phosphate. This material was studied after placement into bone sites of the rabbit mandible.

MATERIALS AND METHODS

For the study, two cement mixtures were prepared and compared as an implant material. In one, the liquid medium used was a 40.2 per cent aqueous solution in dialyzed polyacrylic acid of a 35,000 molecular weight. Zinc oxide powder was processed by firing at 1,000° C for 12 hours and annealed, the material being ground to pass 325 mesh (53u). Tricalcium phosphate was prepared from a commercially obtained hydroxyapatite powder which was purified by precipitation techniques and sintered at 1,000° C. The zinc oxide powder was combined with the tricalcium phosphate powder in a ratio of 60 to 40 per cent by weight. This was then mixed with the polyacrylic acid powder and liquid ratio of 1.5 to 1 by weight. The second mixture was obtained by combining the tricalcium phosphate powder with distilled water at a powder to liquid ratio of 1.5 to 1 by weight. Both mixtures were triturated for approximately 40 seconds before being implanted into their respective sites.

Twelve adult white New Zealand rabbits of mixed sexes were used. Each animal had an approximate weight of 4 kg. General anaesthesia was obtained by using sodium pentobarbital. This was injected into the ear vein. To control haemorrhage, local anaesthesia was utilized in the operative sites.

Standardized cavities were prepared in the cortical bone of the left and right diastema areas of the mandible using a 2.35 mm diameter hollow trephine in the manner described by Lawrence et al.⁶ Access to the mandibular bone was obtained extra-orally by an incision directed

along the lower border of the mandible. The overlying tissue and periosteum were elevated by blunt dissection to expose the operative site.

One defect received a mixture of tricalcium phosphate with zinc polyacrylate cement and the other tricalcium phosphate only. A third defect (unfilled) was used as a control. After treatment, the wound was closed in layers and sutured with a 4-0 catgut. One animal was sacrificed at 2 weeks and one at 32 weeks. The remainder were sacrificed in pairs at 4, 8, 12, 16 and 24 weeks. Tissue specimens were decalcified and prepared for histological evaluation. Each tissue block was serially sectioned at 5 microns and stained with haematoxylin and eosin.

RESULTS

Postoperative healing was uneventful and all animals survived. During tissue processing and decalcification, most of the cement was removed. Occasionally, remnants could be seen as a stained material within the defects. Histological sections clearly showed the lateral borders of all defects containing zinc polyacrylate cement combined with tricalcium phosphate over the entire 32 weeks experimental period.

As early as four weeks after operation, the empty control defects showed advanced stages of healing (Fig. 1). Similarly, defects containing tricalcium phosphate showed considerable bone healing with replacement of the implant material, and by 24 weeks the defects generally had filled in (Fig. 2).

After two weeks, a well-organized fibrous connective

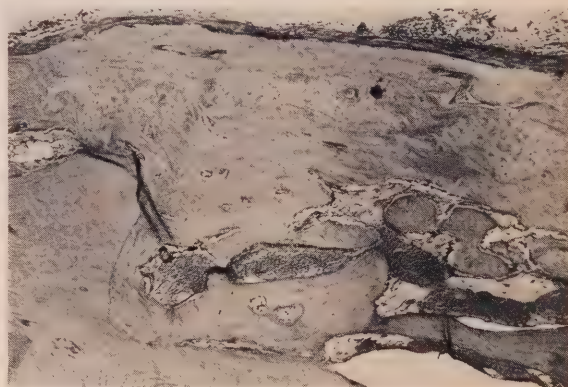


Fig 1 Histological section of healing defects at 4 weeks. Control defect showing new woven bone formation within defect and at the lateral peripheral borders (H and E stain orig. mag. 25 x).

tissue capsule appeared confluent with the periosteum at the periphery of the defect containing tricalcium phosphate with zinc polyacrylate. By four weeks, osteogenic activity was observed within the capsule at the defect margins. Some islands of new osseous tissue were also seen in the capsule over the centre of the defect. There was little evidence of an inflammatory response in all four-week specimens.

At 16 weeks, evidence of a fibrous connective tissue capsule was found to be present between the cement mixture and the bony lateral walls of the defects. At the margins of the defects, osteoclastic and osteoblastic activity was seen next to this connective tissue capsule. Round

cell infiltration became evident at this stage. By 24 weeks, the implants continued to be encapsulated by fibrous connective tissue. In these later specimens, bone remodelling was evident next to the implants (**Fig. 3**).

By 32 weeks, the implant was separated from adjacent bone by loosely arranged connective tissue containing numerous chronic inflammatory appearing cells. Bone remodelling continued adjacent to the defects.

The cementing material was completely encapsulated by the fibrous connective tissue and within this capsule, islands of new osseous tissue were evident. Cementing material was still seen adhering to the fibrous connective tissue (**Fig. 4 and 5**).

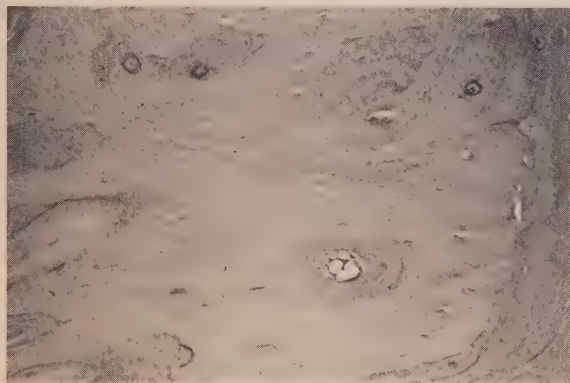


Fig 2 Histological section of healing defects at 24 weeks. Defect implanted with tricalcium phosphate showing complete bone remodelling has occurred. Lateral border of original defect can be seen at left (H and E stain orig. mag. 64 x).

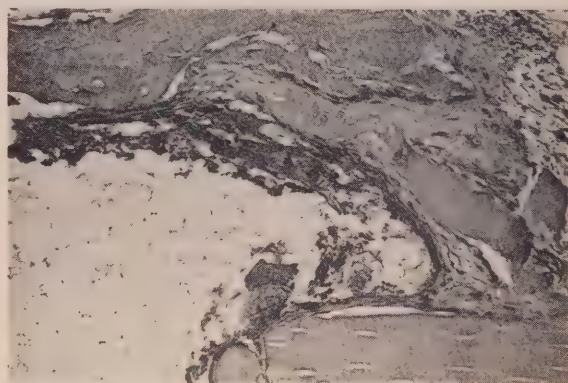


Fig 3 Histological section of healing defects at 24 weeks. Peripheral lateral border of defect containing the zinc polyacrylate cement and tricalcium phosphate implant material. Bone remodelling is seen within connective tissue capsule in adjacent bone (H and E stain orig. mag. 64 x).

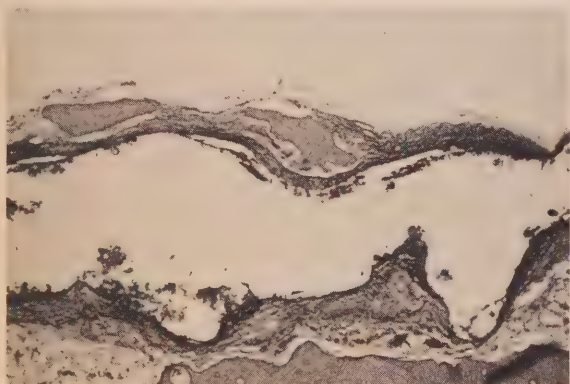


Fig 4 Histological section of healing defects at 32 weeks. Defect containing the zinc polyacrylate cement and tricalcium phosphate implant material. A fibrous connective tissue capsule surrounds implant material. Islands of new osseous tissue are seen within the covering connective tissue. At the remaining borders, extensive remodelling of osseous tissue is occurring (H and E stain orig. mag. 10 x).

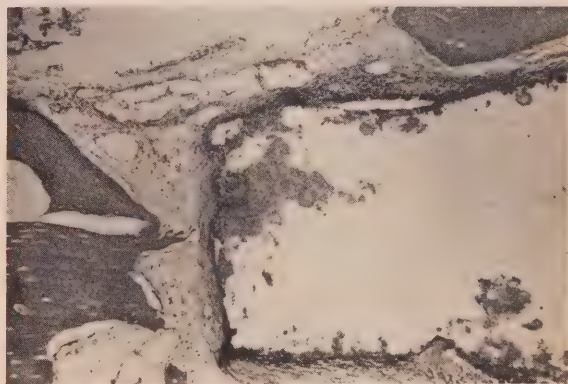


Fig 5 Higher magnification of implant illustrated in Fig 4. Dense fibrous capsule closely adhering to implant material can be noted. At the lateral border, loosely arranged connective tissue contain numerous inflammatory cells. Bone remodelling can be seen at the lateral border (Stain orig. mag. 25 x).

DISCUSSION

It would appear that at early stages the implants provoked little or no inflammatory response. These findings were in accord with that reported by Lawrence et al.⁶

The empty control defects rapidly became filled with new bone. Similarly, the specimens containing tricalcium phosphate showed early osteogenic activity allowing bone to fill in defects replacing the tricalcium phosphate. However, remodelling was still evident at 24 weeks, and there were no signs of inflammation.

By contrast, at later stages, there was a marked foreign body reaction in the tissues adjacent to defects containing zinc polyacrylate cement with tricalcium phosphate.

This resulted in very active bone remodelling adjacent to the defect. Lawrence and his co-workers,⁶ in their implant study using only zinc polyacrylate cement material, did not observe this type of foreign body reaction.

Such a finding could be attributed to the short period of observation (— 16 weeks) for the study. However, it is more likely that the addition of tricalcium phosphate to the cement mixture would account for the difference.

In this investigation, extensive new bone formation was observed within the fibrous tissue capsule around the implants. There was a suggestion of this occurring in the studies by Peters et al⁷ and by Lawrence and co workers⁶ who tested zinc polyacrylate cement only. In addition, Peters and his colleagues tested the toxicity of zinc polyacrylate cement in subcutaneous and hard tissue implant sites of rats and rabbits over a 12 month period and they found little or no adverse tissue reactions during this time. Such would contrast with the present eight month study which tested a combination of zinc polyacrylate cement and tricalcium phosphate. Could the presence of tricalcium phosphate in the mixture account for the differences noted?

Some researchers have postulated that the presence of calcium salts in grafts allows for increased osteoblastic activity.^{8,9} Grower et al⁹ postulate that tricalcium phosphate may stimulate bone formation as a result of the presence of soluble calcium and phosphorus ions at the site of implant. A local increase in calcium salts to the experimental alloplastic implant material did not show increased osteoblastic activity. These results would indicate that the addition of tricalcium phosphate to zinc polyacrylate cement *does* influence the host's tissue response.

The combination of tricalcium phosphate with zinc polyacrylate cement resulted in a delayed foreign body

reaction and bone formation could only occur after complete rejection of the implanted material. Evidence for this is strongly suggested by the histological appearance of the long term specimens. This would lend credence to Pfeifer's belief that the presence of calcium salts in grafts tends to precipitate a foreign body reaction.¹⁰ A further possibility is that the long-term release of zinc ions from these implants may have occurred. Peters et al⁷ demonstrated that cytotoxic effects from zinc polyacrylate in tissue culture were due to the release of zinc ions.

From our observations, it would appear that zinc polyacrylate cement in combination with tricalcium phosphate is a poor implant material.

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Reprint requests to Dr. Schuller.

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Tooth transplantation — A treatment modality in periodontosis

Murray L. Arlin, DDS
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ABSTRACT

Treatment of severe bone loss about a maxillary first molar, in an adolescent patient, by extraction and transplantation with a developing maxillary third molar is described. Although there was osseous repair of the bony defect, root development was absent and the periodontal ligament space appeared lost. Since the cells investing the developing tooth are responsible for root formation and the development of the periodontal tissues, it is proposed that these cells are damaged before transplantation. In order for root development to continue with the formation of cementum, periodontal ligament and alveolar bone, it is suggested that developing teeth might be cultured prior to transplantation, so that the damaged root sheath and dental follicle can regenerate.

The precise etiology and pathogenesis of periodontosis are still unclear. Recent studies have found characteristic micro-organisms in lesion sites¹⁻³ and differences in certain host factors in patients with periodontosis.^{4,5} However, there is as yet no satisfactory explanation to account for the symmetrical pattern of severe bone loss, precocious onset, predilection for females and familial tendency of this disease.

The clinician, presented with a patient with periodontosis, is restricted to a limited number of treatment modalities. The teeth may be kept under a strict maintenance program,⁽⁶⁾ or extraction may be carried out in order that adjacent teeth not be jeopardized by the disease process. Extraction, however, leads to the difficulties of prosthetic replacement in usually a young patient. The patient with a first molar with severe bone loss and a

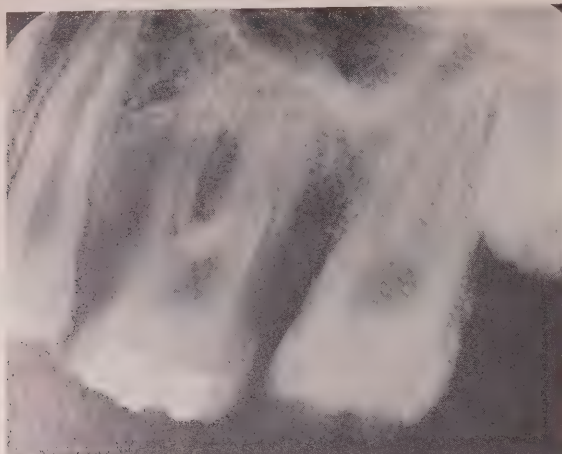


Fig 1 Preoperative radiograph. There is severe bone loss about the maxillary left first molar and the unerupted developing third molar is present.

developing third molar affords the clinician the opportunity of removing the diseased tooth, transplanting the developing molar into the extraction site and eliminating the immediate need for prosthetic replacement.

Baer and Gamble⁷ initially described transplantation of developing third molars in periodontal lesions about first molar teeth. They showed that autotransplantation could be a method of repairing alveolar bony defects which resulted from periodontal disease. The following case report illustrates this technique in an adolescent patient with molar-incisor type periodontosis.

CASE REPORT

In October 1978, a 15-year-old black female presented at the Graduate Periodontic Clinic at the University of Toronto, complaining that a number of her teeth felt loose.

Clinical and radiographic examinations revealed the clinical pattern of molar-incisor type periodontosis. Sanative therapy was initially carried out. However, bone loss about the maxillary left first molar was so extensive that a favorable response to conventional periodontal treatment could not be anticipated (Fig 1). An unerupted maxillary left third molar was present in the early stage of root formation and it was believed that transplantation of this developing third molar into the first molar extraction site might afford the best opportunity for repair of the alveolar bony defect.

In February 1979, the maxillary left first molar and maxillary left third molar (Fig 2) were extracted. The inter radicular bone at the extraction site was removed so that the implanted third molar would be out of occlusion. The transplant was then stabilized with 3-0 silk sutures (Fig 3)

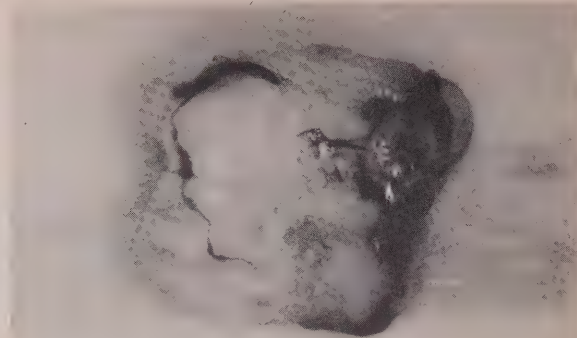


Fig 2 Developing third molar before transplantation, with portions of the root sheath and dental follicle attached to the root.



Fig 3 Transplant stabilized in extraction site with 3-0 silk sutures.

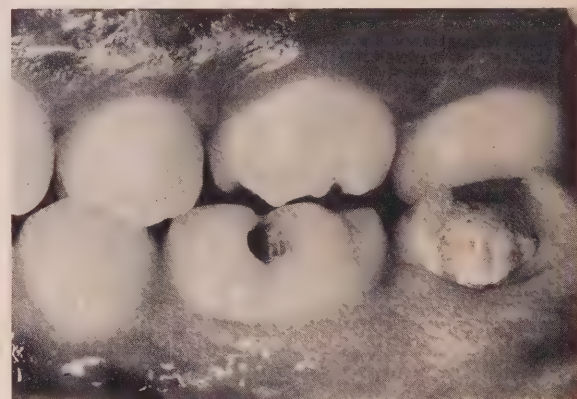


Fig 4 Transplant erupting into occlusion 15 months post operatively.

and a periodontal dressing for two weeks. After stabilization was removed, the transplant was examined at monthly intervals under the following parameters: mobility, pocket depth, occlusion, pulpal status, clinical symptoms, bone fill, root development and periodontal ligament space.

At 15 months postoperatively, mobility was less than 1 mm, the sulcus probed less than 2 mm with no bleeding,

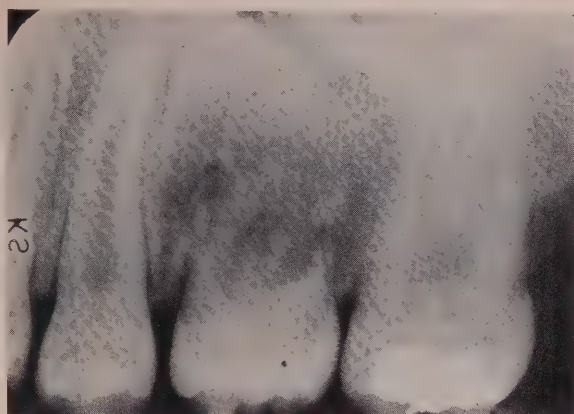


Fig 5 Fifteen-month postoperative radiograph. Osseous repair of the bony defect has occurred; however, root development of the transplant is absent and the periodontal ligament space appears lost.

the transplant had almost erupted into occlusion (Fig 4), responded within normal limits to electric pulp testing and remained free of clinical symptoms. Radiographic examination revealed that the alveolar bony defect was completely repaired; however, root development was not evident and the periodontal ligament space appeared lost (Fig 5).

DISCUSSION

Root length plays a major role in the stability and prognosis of any tooth.⁸ Most of the reported cases in the literature on tooth transplantation have failed to demonstrate any appreciable root development.^{9,10}

Hertwig's epithelial root sheath is necessary for root development and the dental follicle is needed to form cementum, periodontal ligament and the bone that lines the socket.¹¹ Although care is taken not to disrupt these tissues during surgical removal of the developing tooth, damage or loss of some of the root sheath and dental follicle must undoubtedly occur. The tooth is then transplanted without these intact embryonic tissues and as a result continued root development and formation of a true gomphosis cannot occur. However, since repair of the alveolar bony defect usually occurs and the transplant erupts into occlusion, some of the cells of the dental follicle must survive.

If removed tooth germs are cultured and then transplanted into heterotopic sites, root development continues with the formation of cementum, periodontal ligament and bone.^{12,13} It has recently been shown that if extracted roots are cultured with periodontal ligament cells and then implanted into bone, cementum will form on the roots, with Sharpey's fibres attached to the root and to the newly formed bone.¹⁴ It may well be that in order for root development to continue and a true gomphosis to form, the transplant may initially have to be

cultured so that Hertwig's epithelial root sheath and the dental follicle can be regenerated by the cells surviving surgical removal. Following culture, a regenerated root sheath and dental follicle could then continue with their embryological role upon transplantation.

The transplantation of a developing tooth can provide the clinician with a useful modality of repairing alveolar bony defects which result from periodontal disease. Although pooled results tend to indicate about 73 per cent five-year survival rate for transplanted teeth,^{15,16} this period could provide the necessary time for a young patient to adjust to the loss of a tooth and to its prosthetic replacement.

Dr. Arlin was a postgraduate student in periodontics, Faculty of Dentistry, University of Toronto, at the time this article was written. He is currently in private practice in Toronto.

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Periodontosis

Part II: Diagnosis and Classification

Robert F. Harvey, D.D.S., F.R.C.D.(C), F.A.C.D., F.I.C.D.

In 1949, the Committee on Nomenclature of the American Academy of Periodontology¹ recognized periodontosis as a degenerative non-inflammatory disease entity; in 1966, the World Workshop in Periodontics seriously questioned whether such a condition existed;² and in 1977 at the International Conference on Research in the Biology of Periodontal Disease³ held at the University of Illinois, the existence of such a specific disease was again seriously questioned. It was suggested that . . . "the definition of 'Periodontosis' used in 1949 should be allowed to die for lack of supporting evidence", until the means for conclusively identifying a disease state that produces rapid localized destruction in young individuals becomes more clear.

The conference did, however, accept part of Baer's definition as discussed in Part I of these articles: "Periodontosis is a disease of the periodontium occurring in an otherwise healthy adolescent, which is characterized by a rapid loss of alveolar bone about more than one tooth of the permanent dentition". It discussed whether the condition could be localized or generalized and concluded that . . . "It is prudent to limit definition at this time to cases of destruction localized to first molars and/or incisors . . .".

In 1978, Baer and Kaslick, in an article entitled "Periodontosis: A confusion of Terminology",⁴ suggested that . . . "The suffix 'osis' has never etymologically meant 'degenerative' and does not reflect the etiology of a disease . . . They conclude with . . . "Until such time as a definite etiology or multiple etiologies can be determined, it seems premature to change the well-known term periodontosis. Our suggestion is that when we use the term periodontosis, we use it according to its updated definition or else designate the condition, 'Periodontosis (Juvenile Periodontitis)'."

In view of the foregoing and as stated in the preceding article Periodontosis — Part I, periodontosis is simply defined as "a disease of young adults characterized by severe and rapid destruction of the periodontium," adapted from Miller's classification of 1948,⁵ three classes may be observed:

Class I

In the classic case of periodontosis, one to four first permanent molars and any or all of the anterior teeth are involved; in the early stages, minimal smooth surface

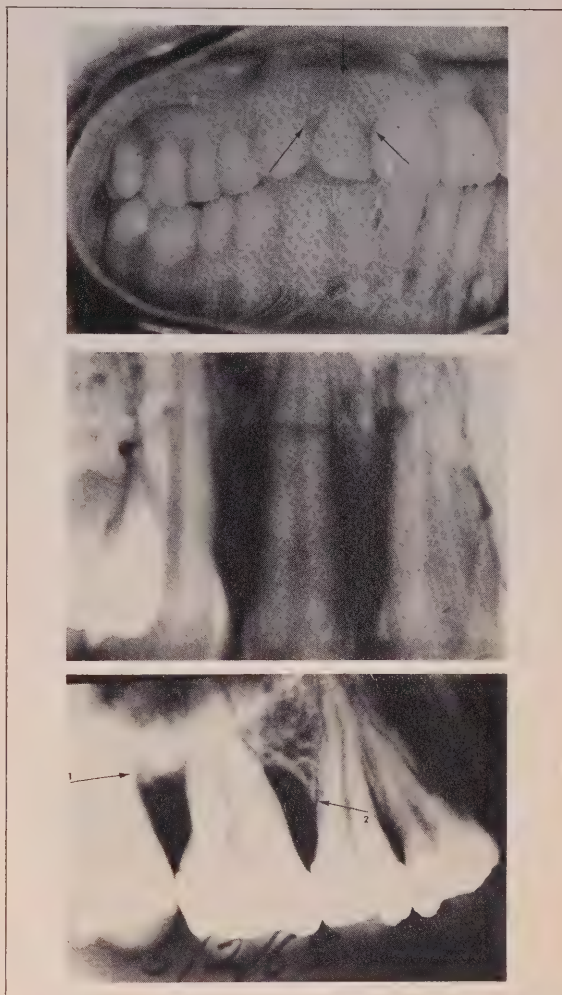


Plate 1 (a) Typical picture of lesion of maxillary lateral incisors of Class I periodontosis; mesial of central incisors not involved. Note also involvement of 1st molars. 18 years old white girl.
(b) Radiograph of lesion of maxillary lateral illustrated in (a). Note lesion "spreading" to involve mesial cuspid and distal-central.
(c) Severe destruction associated with lesion about maxillary right first molar of case illustrated in (a). Note "spreading" of lesion to involve mesial of second molar. (Arrow 1) yet perfectly healthy lamina dura of distal of second bicuspid (Arrow 2); illustrates well the "arc" type picture of destruction.

caries, and little salivary or serumal calculus are present. Extension or spreading of the disease process occurs with time so that the distal of the second bicuspid and the



Plate 2 Typical radiographic lesion of first molar in of 11½ year old white girl. Note pattern of destruction of cancellous bone with destruction greater in the body of the mandible close to the first molar; also note lamina dura distal of second bicuspid completely untouched by process. All four first molars were similarly involved. Compare with 5(a) and 5(b).



Plate 3 (a) Photo and radiograph illustrating severe destruction occurring between maxillary cuspid and first bicuspid in Class II periodontitis; 18 year old Barbadian girl. Note apparent gingival health near orifice of pocket and serumal calculus present in X-ray (b) Arrow

mesial of the second molar may become involved. (Plate 1A, B & C; Plate 2).

Class II

In addition to involvement of the first permanent molars and anterior teeth, the cuspid-first bicuspid area, particularly in the maxilla, is also involved. (Plate 3 — A & B).

Class III

Includes clinical patterns which do not fit into the first two classes; e.g. "generalized" forms exhibiting horizontal bone loss yet with apparent mandibular bicuspid resistance as suggested by Tenenbaum et al.⁶ and cases of isolated anterior lesions without apparent clinical involvement of first molars.

DIAGNOSIS OF THE 1ST MOLAR LESION

Clinical Examination

The Gingivitis Index of Loe⁷ is unfortunately of little value in the diagnosis of periodontitis for the classic signs of inflammation are usually absent except perhaps in the

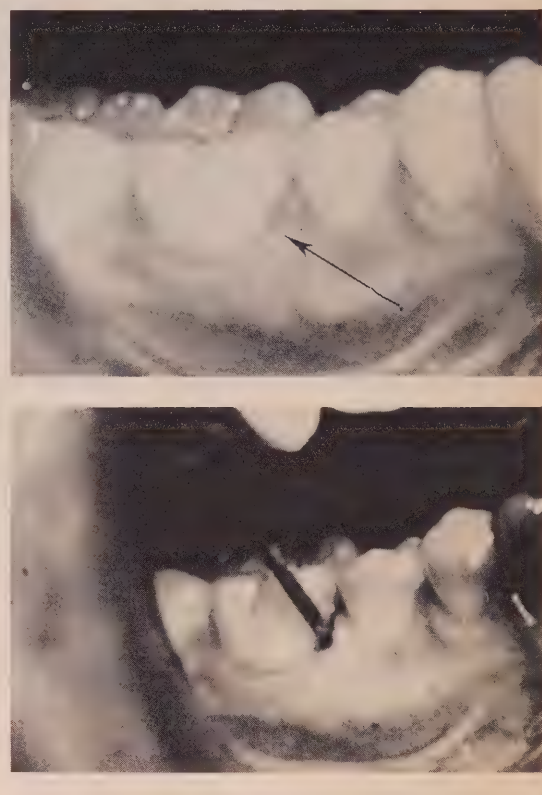


Plate 4 (a) Photograph of early lesion involving first molars in 13 year old white girl. Note 1 x 2 mm. area of slight depression, slightly oedematous and cyanotic; pressure would disclose pitting and a serous exudate (plus). Note also that the lesion does not involve the interdental papilla area where most lesions of periodontitis occur, but lies midway between the papilla and the buccal surface.
(b) Flat periodontal probe inserted about 6 mm. into defect.

terminal stages of the disease. When periodontitis is present about the first molar, it is usual for a number of teeth in the immediate area to be involved; where the first molar is the only one involved, the signs of inflammation are usually apparent, and the whole interproximal papillae appear congested, even in the early stages.

The early gingival changes in periodontosis are quite different and quite distinct. Drying of the tissues is essential to enable the operator to discern the minute changes which are indicative of early pathological changes. The lesion may appear as a slightly depressed, oedematous area of about one or two square millimeters in diameter with absence of stippling — all in contrast to the tissues in the immediate vicinity. Pressure on the site results in "pitting on pressure" and expression of a serous (pus) exudate. With the tissues air dried, a thick serous type plaque is frequently apparent on the tooth — which is not noticeable when the tissues are moist.

The location of the initial lesion is also quite different in periodontosis compared with periodontitis. With periodontitis, the early lesion usually starts in the interproximal

papillae area with both sides of the papillae rapidly involved; or again, it may start on the bucal or lingual area. With periodontosis, however, the lesion may start midway between the contact point of the tooth and the mesio-buccal angle, or elsewhere but without the crevice on the opposing tooth being involved. It has been reported in the literature which confirms the experience of the author that the initial lesion usually starts on the mesial of the first molar (**Plate 4-A & B**).

Radiographic Examination

The classic picture is one of an arc type area of destruction of the supporting bone about the first molars with no involvement of the distal of the second bicuspid or mesial of the second molar — an entirely different picture compared with that seen in periodontitis. The distal of the second bicuspid and mesial of the second molar can become involved in the terminal destructive phases of the 1st molar lesion (**Plate 1C**) as well as in the Class II or Class III (generalized) forms of periodontosis. In the early stages, however, various shaped areas of destruction may occur about the mesial of the first molar. This radiographic evidence together with the clinical gingival picture and probing, plus the young age of the patient are believed to be sufficiently diagnostic to warrant the diagnosis of periodontosis.

The pattern of destruction of the alveolar bone is of equal importance in diagnosis of periodontosis. In gingivitis which may proceed to periodontitis, there is primarily a thickening of the interproximal lamina dura which illustrates the fourth zone* of the inflammatory process as described by Fish⁸; i.e., thickening or sclerosing of the interproximal cortical layer occurs. (**Plate 5A**). This is followed by demineralization of the lamina dura associated with pocket formation and a gradual destruction of the supporting bone associated with chronic marginal periodontitis, (**Plate 5B**). Beyond this area of bone resorption one notes, depending upon the severity and speed of the destructive process, varying amounts of sclerosing of the spongy or trabecular bone.

In periodontosis, however, this normal pattern of bone destruction associated with the development of chronic periodontitis does not occur. Resorption of the interseptal bone occurs vertically, laterally, obliquely, or in any direction frequently illustrating marked areas of radiolucency well beyond the lamina dura of the particular tooth involved. (**Plates 1, 2 & 3**). This can only be determined by critical examination of the radiograph when it becomes apparent that the area of resorption is in the spongy part of bone with less apparent destruction of the lamina dura supporting the teeth.

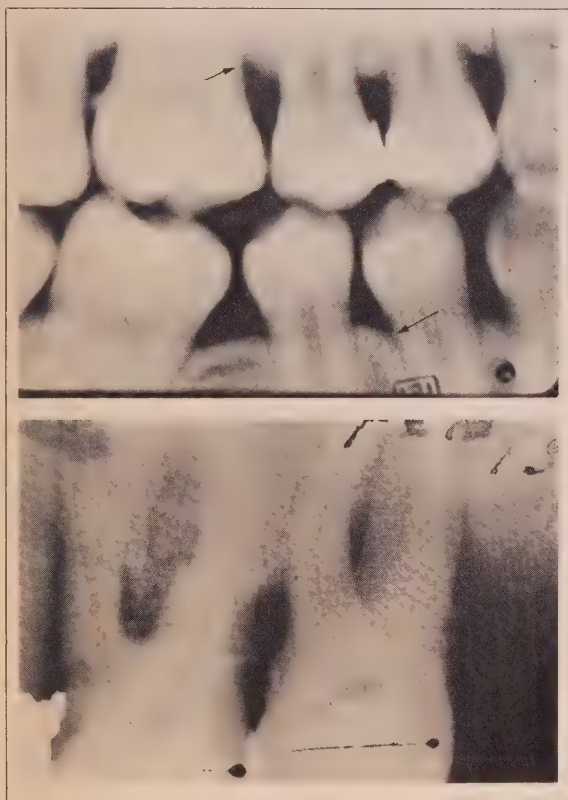


Plate 5 (a) Chronic marginal periodontitis. Note thickening of lamina dura and early pocket formation completely different that of periodontosis as illustrated in Plates 1 & 2. Seventeen year old white girl.

(b) Advanced chronic periodontitis in middle aged white female.

Note entirely different pattern of bone destruction from that illustrated in Plate 1(c); also, presence of serosal calculus.

* Fish — first zone: destruction; second zone or "Zone of Contamination of... soluble toxic material"; third zone; or "Zone of Irritation where the toxic matter is more dilute" and the fourth zone, or "Zone of Stimulation where the poisons are still more dilute being merely a stimulant". (In soft tissue, the walling off by fibrous connective tissue or with the case of bone sclerosing or thickening).

As the destructive process continues, downgrowth of the attachment epithelium occurs, the lesion usually spreading lingually and then to the distal. No evidence of serumal calculus is evident at the site of active destruction i.e.: at the base of the pocket.⁶

As the process proceeds from the mesial towards the lingual, the mesio-lingual furcation of the maxillary first molar is rapidly involved, extending towards the distal surface. In the mandible, the involvement of the lingual furca could take longer to become involved although the extension of the destructive process remains the same. Only in the latter or terminal stages does the buccal furca appear to become affected. Why this is so is not clear.

As the disease process continues, sclerosing of the coronal portions of the destroyed bone (pocket) occurs presumably explained again by Fish's⁸ concept of inflammation that in this area, the tissues are now far enough away from the site of active destruction so that resistance in the form of sclerosing appears. This is evident in radiographs of advanced classical periodontitis where the coronal portion of the pocket wall is clearly sclerosed blending in well to a knife-edged angle with the lamina dura of the proximating tooth — e.g., distal second bicuspid, mesial second molar — whilst the apical portions of the pocket demonstrate an active destructive process. **Plate 1-C** illustrates a healthy second bicuspid but with the disease having spread to involve the mesial of the second molar.

Calculus is never formed during the active stages of the disease.⁹ Serumal calculus may appear in the most coronal portions of the pocket associated with sclerosing of the bone in this area as previously discussed (**Plate 3A & B**). According to Keyes*, this is an indication that the organisms present in the area are less active and a sign that the flora has changed resulting in calcification of the plaque; such calcification, however, never occurs where the plaque is causing active destruction of the tissues. Salivary calculus is also never formed unless the condition has been slowed down or arrested.

Use of the Periodontal Probe

Probing for pocket depth is accepted as being indispensable for examination purposes and diagnosis — being of more value than the radiograph for some purposes. On the other hand, without knowledge of the tissues with which we are dealing the measurements recorded can frequently be very misleading. The depth recorded varies depending on the force used by the operator, the size of the probe, and the degree of health or disease of the particular site.

Schroeder and Listgarten¹⁰ have shown that the histological base of a healthy crevice is less than the clinical depth. Minimal pressure with a probe in addition usually extends through the epithelial cells forming the base of the crevice when gingivitis is present;¹¹ where periodontitis is present, it requires minimal pressure to probe beyond the

lowest epithelial cells of the base of the pocket into the disorganized connective tissue. In periodontitis where there is considerable destruction or at least disorganization of the tissues, one can probe well into the connective tissue of the periodontal ligament and even probably into decalcified bone. It would appear obvious that fine probes should never be used for general diagnostic purposes unless the operator is aware of these facts.

An understanding of the above is mandatory for purposes of diagnosing and treating periodontitis, for as it will be shown in Part III, pockets can be considerably reduced with antibiotic therapy alone; this can in part be explained by the fact that such pockets as originally recorded may include the amount of penetration of connective tissue and possibly decalcified bone; with healing occurring due to modification of the microbiological flora, connective tissue resumes its normal density and resistance to penetration and even bone becomes recalcified.

DIAGNOSIS OF THE LESION OF THE ANTERIOR TEETH

In the early stages of the disease when the anterior teeth are affected, the diagnosis of periodontitis may be as difficult as with the molar lesion, particularly as it concerns the mandibular incisors. Slight changes of the texture with disappearance of stippling, and slight softening of the gingival margin which exhibits a slight cyanotic color are identical to those observed in the molar areas but may be difficult to observe. Again as with the molar teeth careful drying of the tissues will demonstrate these changes and the presence of a serous type plaque together with the presence of an exudate (pus). The tissues have a general appearance of being clean and no calculus — salivary or serumal — is present at this stage.

Location of Initial Lesion of the Maxillary Incisors

As with the early lesion of the molar, the first changes do not necessarily appear in the interproximal papillae as is the case with gingivitis or periodontitis where the whole papilla is usually involved; the gingivitis index may be at the most 0.5. The lesion may appear towards the interproximal area but in the maxilla, may be more to the labial and will frequently spread labially or lingually to involve the opposite proximal side of the tooth. On close observation it will be noted that the crevicular tissues of the proximal teeth may not be affected. Slight changes in the color and size of the vessels in the oral mucosa may be detected by the astute observer as described by Box¹² (**Plate 1-A**).

Radiographic Examination of the Maxillary Incisors

The radiographic pictures when only the lateral incisors are involved demonstrate more of a saucer-type picture of bone loss compared with the larger arc-type picture of the molar lesion in the early stages. In the earliest stages, however, only the mesial may be involved exhibiting an infrabony type defect. Extension of the lesion is unpre-

* Paul Keyes, N.H., Washington, D.C., U.S.A. — personal communication

dictable as it may continue apically involving only the one surface for some time before involving the labial and/or lingual, and distal. There appears to be no good reason why the lesion usually starts on the mesial rather than on the distal as also usually occurs with the molar lesion. One could conjecture that the mesial component of forces plays a role in lowering resistance or modifying the "pathway" or spread. In the usual case, however, the lesion spreads from the mesial around the labial or lingual to involve the distal giving the saucer-type radiographic pictures. It would appear that the anatomy of the bone in the immediate area would play an important role in determining the extension of the lesion and its anatomical configuration.

In the early stages when only the lateral is involved the radiograph may show a well-defined lamina dura of the distal of the central incisor and mesial of the cuspid. Extension or spreading of the disease process in time usually results in involvement of the proximal teeth. When the lesion is confined to the central incisors, it may involve either or both and in the early stages is again localized to the mesial of the particular tooth prior to encircling the tooth as with the lateral incisors; due apparently to the greater amount of bone present between the central incisors and the presence of the median suture — two layers of bone — the lesion is more of the vertical or infrabony type and only when well advanced and involving both central incisors does it completely destroy the bone between them.

Clinical Examination of the Mandibular Incisors

The early lesion of the mandibular incisors is equally difficult to determine. (Plate 6-A). Critical examination of the soft tissues as for the molar and maxillary anterior lesions is essential; drying of the tissues is essential; probing is essential — and here it is even more necessary to have a variety of probes available. Due to the thinness of the tissues, the usual round Williams type probe may be too thick. Fine round probes can penetrate well through the tissues as previously suggested, giving false recordings. Usually some form of "flat" probe is required in addition to the regular Williams. The lesion as with other areas more frequently begins on the mesial and quite frequently towards the lingual.

Radiograph Examination of the Mandibular Incisors

Radiographs in the early stages tend to be misleading due to the comparatively small amount of bone present. The classical type of breakdown as illustrated with the molar lesion may be completely absent. Due to the closeness of the lower anterior teeth, even in health it may be extremely difficult to identify "normal" lamina dura, and other structures. Of course if the teeth are well spaced, or tilted so that considerable bone is present between them, as sometimes occurs between the central incisors, then the early infrabony type lesion may be evident. In the average case, however, several millimetres of bone are usually lost

before evidence of destruction is obvious. The bone loss also appears to occur in a "horizontal" rather than a "vertical" fashion as previously discussed.

Careful examination of the radiographs of the anterior teeth demonstrates the same condition of the spongy bone as seen with the molar lesion: i.e., little evidence of resistance in the form of sclerosing depending upon the stage, speed, and degree of the destructive process. (Plate 6-B).

Migration of anterior teeth would appear to occur in the latter stages of the disease process¹³ and not in the early stages as reported in the early¹⁴ literature. The speed and degree of "wandering" is related to many factors such as the amount of bone lost, the rapidity of bone loss, degree of occlusal trauma whether primary or secondary, tongue habits, lip habits and clenching or grinding habits. Extrusion of the teeth would occur and the extent and direction would be related not only to the amount of fibrotic enlargement of the apical ligament space, but also to the above factors.

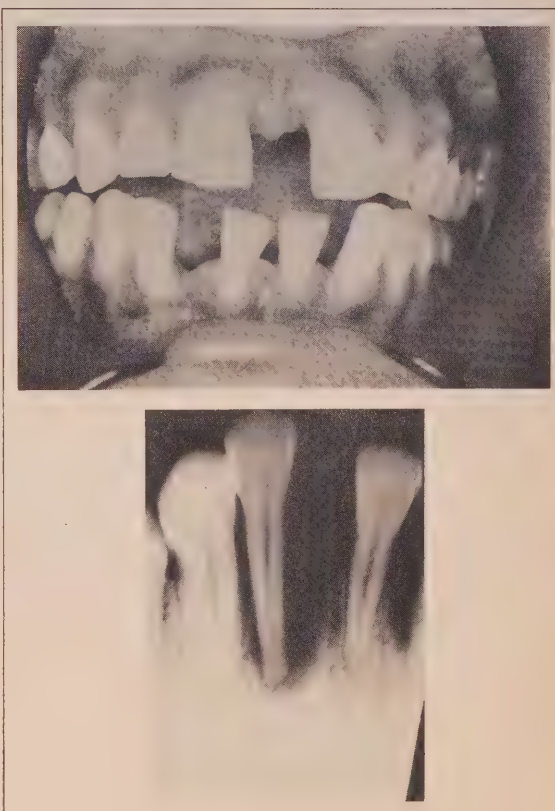


Plate 6 (a) 20 year old Barbadian black girl showing apparently plaque-free mouth yet severe destruction of maxillary and mandibular anterior teeth. Advanced destruction of bone mesial to both maxillary central incisors with no involvement of distal surfaces.

(b) Same patient. Note severe destruction about right lateral mandibular incisor with no apparent destruction of the mesial of the cuspid; also, comparative immunity possessed by right central incisor compared to the right lateral or left central incisor.

As with the molar lesion, serumal calculus is never present except perhaps in the orifice of the pocket where some arresting of the condition may have occurred. Salivary calculus is also never present in the active condition. When present, however, it is evidence of arresting or slowing down of the condition.¹⁵

In the terminal stages of the disease, granulomatous tissue may be seen exuding from the orifice of the pocket — the first time evidence of classical inflammation is observed. Other than with the above exceptions, the rest of the mouth appears to be comparatively plaque free. (The plaque is present but due to texture, color, viscosity, etc., it is not so easily observed.)

Class II

When the cuspid — first bicuspid area becomes involved as in Class II cases, the lesion frequently appears to be one which rapidly destroys the tissues distal to the cuspid and mesial to the first bicuspid leaving much of the buccal and lingual plates of bone more or less intact. The tissues in the early stages exhibit the same characteristics as described for the first molar with the exception that the entire interproximal gingival tissue may be involved. The gingivitis index with such lesions is quite variable. In the early stages, it may be 0.5 but in the latter stages 2 or 2.5. Normally, one would consider the higher readings to be a sign of slowing down of the condition and this could be so, and with the defensive inflammatory response being localized to the area of the orifice or coronal aspect of the pocket, serumal calculus frequently forms. All too frequently, however, the condition is worsening in the apical area of the pocket with rapid destruction of the interseptal bone between the cuspid and first bicuspid. (Plate 3).

Class III

In Periodontosis Class III generalized cases, as the classical arc-type lesion about the first molar does not appear to be present, it is impossible at this time to state where the lesion might begin, whether about one tooth or about many teeth at the same time. It is equally impossible to determine whether the same predisposing factors exist, whether more serious immuno-deficiencies exist, whether more virulent organisms exist, or whatever. Nevertheless, there is loss of bone in young adults occurs, and at a very rapid rate. As most posterior teeth are involved, many cases will show bone destruction of a horizontal type intermingled with the more classical infrabony types of lesions. On the other hand one or several incisors may be critically involved without clinical evidence of molar involvement.

SUMMARY

Periodontosis has been defined as "a disease of young adults characterized by severe and rapid destruction of the periodontium". The disease begins in the circumpubertal period and appears to be more common amongst females. There would appear to be a familial tendency.

The absence of obvious signs of inflammation make the condition difficult to detect in the early stages. The tissues must be dried carefully to note slight changes in color (cyanosis), oedema, loss of stippling and the presence of a serous (pus) exudate. Careful use of various shapes of periodontal probes is essential to detect pocketing about the first permanent molars and anterior teeth in classic cases. The radiograph is indispensable to note the arc-type of bone loss about the first molars. A more variable picture of bone loss appears with the lesion about the anterior teeth. Probing of pockets about the first molars and/or anterior teeth of more than four or five millimetres in young adults should make one suspicious of periodontosis. Pocketing and bone loss would appear to usually begin on the mesial surfaces of the affected teeth; such pocketing frequently occurring on only one tooth. Wandering of anterior teeth is a relatively late characteristic of the disease.

Periodontosis may be classified as follows: Class I or Classical: one to four of the first molars and any of the anterior teeth may be involved. Class II: Same as Class I but with the involvement of cuspids and first bicuspids. Class III: Includes clinical patterns which do not fit into the first two classes: e.g., generalized forms exhibiting horizontal bone loss yet with apparent mandibular bicuspid resistance and cases of isolated anterior lesions without apparent clinical involvement of first molars.

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Periodontal soft tissue respiration

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ABSTRACT

A study was performed to differentiate between the respiration rates of healthy periodontal soft tissue. Rates were determined by use of radiorespirometry. Inflammation caused an increase in respiration of gingival tissue. This study demonstrated the viability of the radiorespirometric method for studying diseased periodontal soft tissues.

Since periodontal disease represents an inflammatory lesion, it is probable that underlying defects or alterations in the biochemical processes of the periodontium are involved. These defects or alterations may be responsible for "predisposing the tissue to subsequent injury by local factors."¹

Alterations of metabolism of periodontal soft tissue can be measured by quantitating oxygen utilization,^{2,3} expressed as QO_2 value ($\mu l O_2 / mg$ tissue dry weight/hour), or carbon dioxide release.⁴

In 1942, Leng⁵ made one of the first manometric respiration studies of healthy gingival tissue using the Warburg method. Glickman et al,⁶ in 1949 measured the QO_2 of eight healthy human gingiva and in 1950 studied canine gingival tissue QO_2 values.⁷ Additional studies of healthy gingiva tissue were done by Person et al⁸ and by Kawasaki⁹ in 1961; by Morgan and Wingo¹⁰ in 1966; and by Lainson and Fisher¹¹ in 1968.

There have been a number of studies in the literature involving respiration analysis of inflamed tissue. In 1926, Warburg¹² concluded that every tissue injury leads to increased oxygen consumption. He described this increase as the result of a disturbance in cell permeability. Roessle¹³ and Eppinger¹⁴ in separate studies, based their confirmations on tissue altered by inflammation. Glickman et al⁶ reported an increased respiration rate by 62 per cent in inflamed gingiva.

Schrader and Schrader,¹⁵ in 1957, found that inflamed epithelium respired at a rate two to three times that of normal epithelium. Burstow,¹⁶ in 1960, found an increase

in cytochrome oxidase activity using inflamed gingival epithelium. It is apparent by the majority of these studies that inflammation within a tissue increases its respiratory activity, thereby increasing its oxygen quotient (QO_2).

As oxygen is consumed by a metabolic system, carbon dioxide is produced simultaneously. In 1975, Garbus et al⁴ reported a technique for measuring the oxygen consumption of a system and simultaneously recording its metabolic production of $^{14}CO_2$ from a ^{14}C -labelled substrate intermediate. They validated this procedure by recovering quantitatively the $^{14}CO_2$ that was produced. Labart et al¹⁷ and Jones et al¹⁸ modified the radiorespirometric method of Garbus to study oral tissue respiration.

The purpose of this investigation is to establish a "clinically practical" technique for measuring the respiration of periodontal soft tissues using the modified radiorespirometric method of Garbus and to differentiate between the respiration values of healthy periodontal soft tissues and periodontitis (inflammatory disease) soft tissues.

METHODS AND MATERIALS

In this study "secondary flap" specimens from 25 randomly selected periodontal surgery patients from the periodontal clinic of the University of Nebraska College of Dentistry, Lincoln, Nebraska, were collected. Each tissue specimen consisted of one section of "clinically healthy" tissue which served as a control specimen and one section of tissue with periodontitis involvement which served as an experimental specimen.

The clinical evaluation of periodontal tissues in this study was made using Russell's Periodontal Index (PI).¹⁹ Based on this index, the periodontal status of each tooth was scored accordingly:

0 = Healthy periodontium

1 = Mild gingivitis — overt area of inflammation in free gingivae but not encircling the tooth.

2 = *Gingivitis* — inflammation completely circumscribes the tooth, but there is no apparent break in the epithelial attachment.

4 = Earliest signs on radiograph of alveolar crest resorption (not used in field studies)

6 = *Gingivitis with pocket formation* — the epithelial attachment has been broken and there is a true pocket up to half the length of the tooth root present.

8 = *Advanced destruction with loss of masticatory function* — there is advanced bone loss involving more than half the tooth root, or a definite infra-bony pocket present.

Immediately following surgical incision the selected tissue was removed, divided, and placed into either physiological saline solution or biochemical tissue respiration solution or 10 per cent buffered neutral formalin solution for histologic study.¹

Respiration study of each gingival tissue specimen was conducted in a 16 x 150 mm tube fitted with a serum stopper (Fig 1). The tube contained a disposable plastic cup-shaped well, attached to the serum stopper and positioned centrally and approximately 40 mm from the top of the tube. The reaction solution in the tube assembly consisted of 2 ml of Dulbecco's phosphate buffer saline* at pH 7.3 and 20 μ moles ^{14}C -1,4-succinic acid (specific activity, 0.5 μCi per μ moles).** The centre well contained 0.2 ml of 1 M hydroxide of hyamine in methanol† for the purpose of trapping $^{14}\text{CO}_2$ within the sealed system. The tube assembly containing the gingival tissue specimen immersed in the reaction solution was incubated at 37°C and agitated (75 oscillations per min.) for 30 min. Respiration of the gingival tissue specimen was stopped by the addition of 0.2 ml of 2 M H_2SO_4 . The acid was added by syringe through the serum stopper to insure no $^{14}\text{CO}_2$ was lost. The tube assembly was then agitated an additional 30 min. to trap the $^{14}\text{CO}_2$ released by the acidification of the reaction mixture. At the end of the experiment, the hydroxide of hyamine was collected using a Pasteur pipette. The center well was rinsed four times with 0.2 ml of methanol to insure complete recovery of the $^{14}\text{CO}_2$.

Econofluor Premixed Scintillation Solution* was used for counting the activity in $^{14}\text{CO}_2$ collected in hydroxide of hyamine. Internal standards were used for quench corrections. A Tri-Carb liquid scintillation spectrometer** model 2002 was used for counting the radioactivity.

A histologic evaluation of the tissue specimens was made using Hematoxylin and Eosin staining to determine the actual amount of inflammation present. The specimens were divided into two categories. The first category included connective tissue inflammation levels that ranged from mild to moderate and the second category consisted of severe inflammatory infiltration.

Correlations between respiration rates, histological evaluation, clinical assessment based on Russell's Index was determined using the analysis of variants. Between variable differences was determined using the two-tailed test.

RESULTS

Fifty "secondary flap" surgical tissue specimens from 25 patients with periodontitis were analyzed. A control and experimental specimen from each patient was obtained. The results of these patient and specimen evaluations are listed in **Tables 1, 2 and 3.**

There were 14 males and 11 females involved in this study. The average age of the males was 45 years with a maximum of 73 years and a minimum of 21 years. The females averaged 39 years with a maximum of 49 years and a minimum of 23 years. While the males tended to be slightly older, there was no significant correlation between age and respiration rates or Periodontal Index (PI) scores and sex (male PI scores versus female PI scores). There also was no significant correlation between histological designations and sex (male or female mild to moderate specimens versus severe specimens).

The average wet weight of the samples was 13.1 mg. The control specimens averaged 10.8 mg with a maximum of

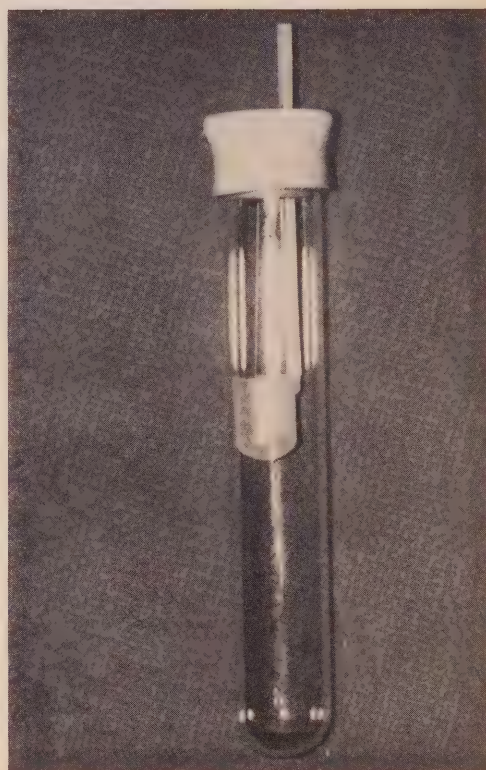


Fig 1 Sealed tube assembly for respiration measurements.

* GIBCO, Grand Island, New York

** Sigma Chemical Co., St. Louis, Missouri and New England Nuclear Corp., Boston, Massachusetts

† New England Nuclear Corp., Boston, Massachusetts

* New England Nuclear Corp., Boston, Massachusetts

** Parkard Instrument Co., Inc., Downers Grove, Illinois

32 mg and a minimum of 4 mg. The experimental specimens averaged 15.3 mg with a maximum of 30 mg and a minimum of 4 mg. There was no significant correlation between specimen wet weights and the respiration rates recorded.

The average PI score for healthy specimens was 1. The average count per minute per mg for the PI score of 1 was 64. This is contrasted to the average PI score for periodontitis specimens which was 6. The average count per minute per mg for the PI score of 6 was 40. Due to the wide variation in values recorded, there was no significant correlation between the two types of tissue and their respiratory indices.

Table 1

Periodontal index scores. Distribution of specimens in groups and their PI scores

Control Specimens		Experimental Specimens	
No. of Specimens	Score	No. of Specimens	Score
4	0	1	4
18	1	1	4
3	2	3	8

Table 2

**Mean respiration rates (comparative analysis).
Analysis of respiration rates between groups
based on PI scores**

	Control specimens	Experimental specimens
No. of specimens	25	25
Mean respiration rate (average cpm/mpg)	56	42
Standard deviation	39.6	27.5

Table 3

**Histological mean respiration rates (comparative analysis)
Analysis of respiration rates between groups
based on histological classification**

	Mild to moderate	Severe
Number of specimens	21	16
Mean respiration rate (average cpm/mpg)	32	67
Mean respiration rate range	1.0 to 78.5	19.1 to 149.1
Standard deviation	23.3	35.4

The second comparison involved the same tissue specimens. However, this time they were divided into mild to moderate inflammatory periodontal soft tissue and severe inflammatory periodontal soft tissue as determined by histologic evaluation. The independent t test was utilized to determine possible significance.

The histologic determination was made in the following manner. The mild to moderate inflammation group included a continuum of specimens exhibiting normal histologic patterns to patterns involving lymphocyte accumulation, some connective tissue collagen degeneration and some plasma cell infiltration. The severe inflammation group exhibited dense lymphocyte and plasma cell infiltration with marked degeneration of connective tissue collagen. Extensive disorientation of connective tissue morphology was seen in some of these specimens. The mean respiration value of the two different inflammatory groups was significantly different. A value of $t = -3.61$ with 35 degrees of freedom and $P = 0.05$ was obtained.

Thus, there was no significant correlation between the mean respiration rate for the control of "clinically" healthy periodontal soft tissue and the mean respiration rate of the experimental or "clinically" periodontitis soft tissue. There was, however, a significant difference between the mean respiration rate of the mild to moderate inflammatory periodontal soft tissue and the mean respiration rate of the severe inflammatory periodontal soft tissue at the $\alpha = 0.001$ level of confidence.

DISCUSSION

Past investigators of human gingival respiration values have suggested two important concepts. First, this particular tissue has a low respiratory rate in comparison to other tissues.^{20,21} Of greater importance is the second observation that in the presence of inflammation, gingival respiration increases.^{6,15} With this information in mind and recognizing the fact that periodontitis is an inflammatory disease, the comparison of soft tissue respiration rates of healthy and periodontitis tissue specimens seemed appropriate.

Senter et al²⁰ indicated that the rate of oxygen consumption reasonably demonstrates the biochemical activity of a tissue. They found this to be true in the absence of marked anaerobic metabolism. Garbus et al⁴ further stated that the rate of carbon dioxide released by such tissue would serve the same purpose. In this study, a technique of measuring carbon dioxide release was utilized in order to achieve the aforementioned comparisons.

The endogenous respiration of gingiva *in vitro* is unique. Eichel and Shahrik²² described its high glycolytic potential and its relatively low citric acid cycle metabolic activities. They stated that "the great discrepancy between the potential for human gingiva to convert pyruvate to lactate compared to its potential to convert succinate to fumarate denotes that the gingiva is characterized by a substantial capacity to metabolize glucose to lactic acid

under aerobic as well as anaerobic conditions." They felt that the very minimal cytochrome oxidase activity of human gingiva might indicate a defective or virtually non-functional citric acid cycle.²³ Furthermore, they indicated that the pentose shunt mechanism was minimally functional, possibly at twice the rate of the citric acid cycle. Their conclusion was that "human gingiva possesses a relatively high glycolytic metabolism and a very low aerobic or respiratory metabolism." It should be kept in mind that these observations were derived from an *in vitro* study of human gingival respiration, as is the case in this investigation.

This investigation determined that gingival respiration increased in the presence of demonstrable inflammation. This was recorded by an increase in carbon dioxide release from tissue which histologically showed an increased inflammatory infiltrate as compared to more normal tissue. The result is in agreement with past studies which used manometric techniques for measuring oxygen consumption.^{6,15}

One explanation for the increased gingival respiration in the presence of inflammation possibly involves cytochrome oxidase activity. Cytochrome oxidase, a major respiratory enzyme, is involved in the cytochrome system which functions in electron transport and oxidative respiratory mechanisms. Cytochrome oxidase activity of human gingiva has been found to be rather low compared to most other tissues.²⁴ Although the enzyme activity is low it is still assumed to function in the same manner as in the energy metabolism of skin.²⁵ This involves carbon dioxide glycolysis and transfer of electrons through the cytochrome system to molecular oxygen.²⁵ Burstone has reported that inflamed gingiva has a concomitant increase in cytochrome oxidase activity. Thus, an increase in oxygen consumption or carbon dioxide release might be expected.

Glickman⁶ stated that increased oxygen consumption was associated with cellular activity in chronic inflammation. Human gingiva is comparable to the oxygen consumption values reported with similar microscopic changes in other tissues. He felt the increased respiration rates were associated with "an infiltration of inflammatory cells, the formation of new blood vessels and connective tissue matrix, and the proliferation of connective tissue and epithelium."

The involvement of collagen in the above processes is apparent. Bergquist and Fisher²⁶ reported that the increased oxygen consumption of predominately collagenous gingival connective tissue is related to its use of atmospheric oxygen for synthesis of collagen by hydroxylation of proline and lysine. Thus, the increased respiration rates found in inflamed gingiva may be due to non-respiratory processes as well. These processes are apparently rapid, especially when tissue formation is in progress as described above by Glickman.⁶

An additional objective of this study was to determine

whether this technique was valid for measuring gingival respiration. Evaluation of the respiration values determined and compared with previously reported results leads one to conclude that it is indeed a valid technique. This has already been established in the case of dental pulp investigation.¹⁷ Whether this technique can be applied to a "clinically evaluated" tissue specimen was not determined in this study. The results involving gingival fibre tissue specimens evaluated by Russell's Periodontal Index showed no significant correlation with the respiration values obtained. It is felt, however, that this does not rule out the possibility of the technique's clinical application. A future study involving the periodontal ligament and its corresponding soft tissues as well as the gingival fibres would be of tremendous value in answering this question.

SUMMARY

The purpose of this study was to differentiate between the respiration values of healthy periodontal soft tissues and periodontitis (inflammatory disease) soft tissues. In this study, soft tissue respiration rates were determined by measuring ¹⁴CO₂ release.

Based on the conditions of the experimental design, the following conclusions can be drawn:

1. Inflammation causes an increase in the respiration of gingival tissue as measured by carbon dioxide release.
2. Utilization of a labelled carbon dioxide production method of analysis for measuring gingival tissue respiration appears to be reliable.

Statistical analysis further indicates:

1. There appears to be no significant correlation between respiration rates of gingival tissue and age or respiration rates of gingival tissue and sex.
2. There appears to be no significant correlation between Periodontal Index scores and sex.
3. There appears to be no significant correlation between histological designations of gingival tissue and sex.

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Dr. Dyer an associate profesor, Department of Oral Biology, University of Nebraska.

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Announcements

CANADA

Canadian Dental Association, 1981 National Convention, Calgary, Alberta, August 30-September 2, 1981. Contact: Dr. R.H. Headley, 7811 Elbow Drive S.W., Calgary, Alta. T2V 1K3.

July/juillet

Western Canada Dental Society Convention, Winnipeg Inn, Winnipeg, Manitoba, July 1-4, 1981. Contact: Dr. Ted Derrett, Chairman, 1981 W.C.D.S. Convention, 300-296 Kennedy Street, Winnipeg, Man. R3B 2M6.

August/août

Canadian Academy of Prosthodontics Annual Meeting, Calgary, Alberta, August 28-29, 1981. Contact: Dr. B.M. Jackson, 22-22 Water Street S., Kitchener, Ont. N2G 4K4.

The Royal College of Dentists of Canada Annual Meeting, Convocation and Symposium on Dentistry for the Disabled, Convention Centre, Calgary, Alberta,

August 28-September 1, 1981. Contact: Dr. John E. Speck, Registrar, Royal College of Dentists of Canada, 170 St. George Street, Suite 614, Toronto, Ont. M5R 2M8.

September/septembre

International Association for Orthodontics Annual Meeting, Hotel Toronto, Toronto, Ontario, September 10-13, 1981. Contact: IAO National Office, Suite 914, 211 E. Chicago Ave., Chicago, Ill. 60611, U.S.A.

Northern Ontario Dental Association 41st Annual Convention, Sheraton Caswell Hotel, Sudbury, Ontario, September 11-13, 1981. Contact: Dr. M. MacKelvie, 1132 Attlee Street, Sudbury, Ont. P3A 3J4.

October/octobre

American Academy of Periodontology 67th Annual Meeting, Sheraton Centre, Toronto, Ontario, October 21-24, 1981. Contact: Office of the Secretary, American Academy of Periodontology, 211 E. Chicago Ave., Chicago, Ill. 60611, U.S.A.

Canadian Academy of Endodontics, 1981

Annual Meeting, Vancouver, British Columbia, October 16-18, 1981. Contact: Dr. Barry Chapnick, 235 St. Clair Ave. W., #103, Toronto, Ont. M4V 1R4. Phone: (416) 922-5115.

November/novembre

Toronto Academy of Dentistry Annual Winter Clinic, Royal York Hotel, Toronto, Ontario, November 26, 1981. Contact: Academy of Dentistry, 234 St. George Street, Toronto, Ont. M5R 2P2.

International

July/juillet

The IV Congress of the International Association of Dentistry for Children. Davos Switzerland, July 22-25, 1981. Contact: R.K. Hall, Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052, Australia.

British Dental Association's 1981 Annual and Scientific Meeting, Newcastle upon Tyne and surrounding countryside, July 10-12, 1981. Contact: British Dental Association, 64 Wimpole Street, London W1M 8AL, England.

Marketplace

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